Parcel 13 Feasibility Study

Prepared for the

Massachusetts Department of Transportation

by

Parsons Brinckerhoff and Kleinfelder

June 10, 2014

Table of Contents

I. The Opportunity Parcel 13 Offers the Neighborhood and the City
II. The Purpose of This Study
III. Existing and Future Conditions On and Around the Site
IV. The Range of Options Explored
V. Option A
VI. Option B
VII. Option C
VIII. Option D
IX. Option E
X. Option F

List of Figures:

Figure 01 - Area Plan and Context
Figure 02 - Site Plan and Context
Figure 03 - Option A - Aerial View
Figure 04 - Option A - Longitudinal Section
Figure 05 - Option A - Level 1
Figure 06 - Option A - Levels 2+3
Figure 07 - Option A - Levels 4+5+6
Figure 08 - Option A - Levels 7+8
Figure 09 - Option A - Section @ Zone 1
Figure 10 - Option A - Section @ Zone 2
Figure 11 - Option A - Cross Section @ Substation
Figure 12 - Option A+B+C - Mezzanine Level
Figure 13 - Option A+B+C - Platform Level
Figure 14 - Option B - Aerial View
Figure 15 - Option B - Level 1
Figure 16 - Option B - Level 2
Figure 17 - Option B - Level 3
Figure 18 - Option B - Levels 4+5
Figure 19 - Option C - Aerial View
Figure 20 - Option C - Level 1
Figure 21 - Option C - Levels 2+3
Figure 22 - Option C - Level 4+Roof
Figure 23 - Option D - Aerial View
Figure 24 - Option D - Level 1
Figure 25 - Option D - Levels 2-3
Figure 26 - Option E - Level 1
Figure 27 - Option F - Aerial View
Figure 28 - Option F - Level 1

Figure 29 – Existing Conditions - 360 Newbury - Lower Level
Figure 30 - Existing Conditions - Platform Level
Figure 31 - Existing Conditions - Street Level
Figure 32 – Building Structural Zones
Figure 33 – Parcels 12 and 15 Massing
Figure 34 – Cassion and Pile Cap Locations
Figure 35 – Foundation and Column Cap Details

I. The Opportunity Parcel 13 Offers the Neighborhood and the City

Parcel 13 is a signature site for Back Bay along Massachusetts Avenue, Boylston Street and Newbury Street. It is the last corner of the Back Bay to be completed and offers an unprecedented opportunity to form a new gateway for the surrounding community. Newbury Street is considered one of the most walkable streets in the country and Boylston Street, east of Parcel 13, is a major destination with its south-facing sidewalk cafes and wide sidewalks. Developing Parcel 13 is an opportunity to extend this dynamic urban environment.

Parcel 13 is a "perfect storm" of transit-oriented development opportunity. The iconic Frank Gehery deconstructionist remake of the 360 Newbury Street building, with its high-end condos, is a landmark and provides a strong anchor to support new development. The educational institutions of Berklee College of Music, the Boston Conservatory, and the Boston Architectural College provide an exciting 24/7 environment. Located in the Back Bay, Boston's premier neighborhood, the area is already an established mixed-use neighborhood and the new development proposed on Parcels 12 and 15 reinforce this character. In fact, a recent Boston Globe article estimated the vacancy rate along Newbury Street as less than two percent. Development on Parcel 12 will establish a strong, active frontage on the west side of Mass Ave. Development along the Boylston Street frontage of Parcel 12 will repair a broken link in the streetscape, creating a strong connection to the Fenway, and complement the active restaurant and retail uses on the south side of Boylston Street. Similarly, development on Parcel 15 will replace the gap over the turnpike and rail corridor with frontage along Boylston Street activating the connection to the Hynes Convention Center, Prudential Center, hotels and the new development proposed at the Christian Science Center. Street-level shops and restaurants on both of these parcels will provide a critical mass of retail activity that development on Parcel 13 can complete.

The collection of new development surrounding Parcel 13 along with its potential to finalize a long-awaited build out of this critical corner in the Back Bay suggests not just a development, but a vision. The location of this parcel at the intersection of the elegant residences and thriving commercial uses of the Back Bay, the larger scale developments of the Prudential Center, Hynes Convention Center and the Christian Science Center, and the cultural and educational Institutions of the Fenway calls out for a new gateway for the neighborhood. The corner of Parcel 13 has the opportunity to become a significant public open space providing a forecourt to the new development and creating areas for café seating to complement the prominent retail frontage. The Berklee College of Music, the world's preeminent jazz school, suggests a musical theme and tone for the architecture and the activities of new development. Similar to the way Emerson College transformed the eastern end of Boylston Street at Tremont Street, Berklee can serve as an inspiration to transform this area into a fusion of historic and cutting-edge contemporary.

II. The Purpose of This Study

Parcel 13 is a challenging air-rights site covering both the Massachusetts Turnpike between Massachusetts Avenue and Boylston and the MBTA Hynes Green Line station and tunnel. Although the area is constrained by the limited space available to provide foundations for air-rights buildings and the geometry of the Turnpike and Green Line tunnel run diagonally to the surface street grid, this is a solvable challenge.

In order to provide as much information as possible to prospective developers, MassDOT has commissioned this feasibility study to provide an analysis of the various structural and programmatic issues. They are divided into three basic components: structural issues related to providing a deck for development at street level; building program and build-out on and above the deck; and Green Line station improvements including new entrances from the air-rights deck at Massachusetts Avenue and at Boylston Street.

Development on this Parcel creates an opportunity to cover the Turnpike and complete the Back Bay's parcel development, providing an active street edge and a pleasant pedestrian environment in building on with the high-quality public realm of the surrounding neighborhood. The intersection of Massachusetts Avenue and Boylston Street is a crossing of two of the City's major thoroughfares, but today's environment created by the open Turnpike running below creates a streetfront that is a visual blight and generates a disturbing level of traffic noise.

The structural analysis of the subsurface conditions for the parcel resulted in the creation of three structural zones. See Figure 32 – Building Zones. Zone 1, adjacent to Massachusetts Avenue is the most challenging structurally and has the lowest capacity for development. Zone 2, occupying the middle portion of the parcel, has more *terra firma* to accommodate foundations and a correspondingly higher capacity for development. Zone 3, at the eastern end of the parcel, spans the Green Line tunnel and has the highest capacity for development. Six alternatives were explored ranging from a maximum-build, fully utilizing the entire parcel over the turnpike and green line tunnel to a minimum-build, focusing primarily on station access and minimizing construction over the turnpike. The alternatives are described in Sections V through X.

III. Existing and Future Conditions On and Around the Site

Today, Parcel 13 and adjacent properties over or abutting the Turnpike are vacant or underutilized, but that is changing. Adjacent parcels 12 and 15 are already in development along with nearby properties. This new development is setting a future context for Parcel 13 that will be dramatically different than what is there today. The principle components of this future context are described below.

Parcels 12 and 15

Parcel 13 is the middle of a grouping of three air-rights parcels over the Turnpike. Parcel 12 is located on the western side of Massachusetts Avenue and wraps around the corner to front on Boylston Street. The portion of the development along Mass Ave, over the Turnpike, is three stories and the portion along Boylston Street is higher at twelve stories. See Figure 33 – Parcels 12 & 15 Massing Diagram. The program for this development is mixed with residential space over a base of retail. Development on this site establishes the missing link to the Fenway and connects the retail and residential frontage along Massachusetts Avenue.

Parcel 15 is located on the south side of Boylston Street and west of Dalton Street. The development on this parcel is formed by a six story base with a 30 story tower set back from the street. See Figure 33 – Parcels 12 & 15 Massing Diagram. The program for this development is mixed with residential space over a base of retail. The developments on Parcels 12 and 15 are currently in design by Samuels & Associates and Weiner Ventures.

Berklee College of Music Master Plan & Crossroads Project

The Berklee College of Music prepared an Institutional Master Plan (IMP) in February of 2011 that includes a development at the southeast corner of Massachusetts Avenue and Boylston Street, across Boylston Street from Parcel 13. This development is composed of a new performance center facing Boylston Street, and a 290-foot building containing dormitory and academic space, and a student life center. Berklee's multi-cultural, international student body provides a pop and jazz national entertainment stage for the City and is one of the high notes of the neighborhood. The full IMP can be found at http://www.berklee.edu/Berklee160/masterplan.html

Boston Architectural College

Founded in 1889 as the Boston Architectural Club, this institution has been housed in the distinctive concrete building by Ashely, Meyer & Associates since 1964 at the corner of Newbury Street and Hereford Street. The growing student body and curriculum has resulted in the BAC expanding into other neighborhood buildings, including the former Institute of Contemporary Art building at 955 Boylston Street. The BAC is part of the constellation of Boston's design culture along with Harvard, MIT, Northeastern, and Wentworth. The BAC is considering creating dormitory space as part of its facilities and could be a potential partner or tenant in the development on Parcel 13.

Back Bay and Boylston Street Urban Design

The block containing Parcel 13 straddles and connects two contexts: along Newbury Street it is part of the Back Bay, but along Boylston Street it is visually—and, to a large extent, functionally—part of the Hynes Convention Center realm. Many influences of the surrounding buildings and activities combine on this parcel to offer an opportunity for a unique development.

The iconic eight-story, 118-foot, 360 Newbury Street building dominates the northwest corner of the block. The redevelopment of this building turned on the twenty-first century switch in Boston and many buildings utilizing more contemporary architecture have followed this lead. The six-story Boston Architectural College (BAC) building defines the northeast corner of the block. Smaller, three- and four-story buildings along Newbury Street fill between these two larger structures, providing a continuous and active street front. The building directly adjacent to 360 Newbury Street is a traction power station for the MBTA.

The southeast corner of the block, at Herford and Boylston (941-955 Boylston Street), contains the historic Richardsonian Romanesque fire and police station building, designed by City architect Arthur Vinal in 1886. The three-story corner building still functions as a fire station (for Engine Company 33 and

Ladder Company 15) and the four-story portion on the west side served as the Division 16 police station until 1976. From 1976 until 2007 it was home to Institute of Contemporary Arts and is now part of the BAC campus. The one-story "Division 16" building, built as an addition to the police station, is now a restaurant and bar. These buildings are designated as Boston landmarks and development on Parcel 13 must engage and respond to their scale and character. See Figure 02 – Site Plan & Context

Parcel 13 is a transition point between two distinct sections of Massachusetts Avenue: one section from the Charles River to the Massachusetts Turnpike and another from the Turnpike to Symphony and Horticultural halls. These sections contain several sub-districts as well. Along Massachusetts Avenue there is a mix of mid-rise and low-rise buildings with institutional and residential uses to the south and residential to the north. There is continuous ground floor retail or other active uses in both directions. North of the site, toward the Charles River, the buildings that front on Mass Ave range from five to ten stories—substantially higher than the four-to-five-story buildings on the cross streets. Southward, toward Symphony Hall, buildings range in height form four to seven stories. The last remaining single-story structures in this area are being replaced with higher buildings as part of the Berklee Campus Master Plan.

Following the rails of the past, the Massachusetts Turnpike forms a major break in the street and block pattern. The opportunity to cover the Turnpike at Parcels 12, 13 and 15 will change both the sound and visual environment and significantly increase the continuity and value of building frontage along Massachusetts Avenue. Development on these parcels will provide a seamless streetscape and create building frontage that should have always been there.

Along Boylston Street, towards the downtown, there is a mix of mid- and low-rise buildings on the north side of the street which are opposite larger-scale buildings on the south side of the street that form the edge of Prudential Center and the Hynes Convention Center—part of what is referred to as the High Spine. Sidewalks on the north side of the street are quite wide—some of the most generous in the City—which promote Boston's recent outdoor café use. However, in the block between Herford and Mass Ave the historic fire and police station buildings are tight against the property line, leaving only a ten-foot sidewalk which is significantly narrower than other portions of Boylston Street. Because Boylston Street changes from two-way to one-way at this point there may be an opportunity to widen the sidewalk in front of these historic buildings. New development on Parcel 13 can continue the wider-sidewalk character typical of Boylston Street with the use of setbacks, arcades or plazas

Along Boylston street west of the site, the existing buildings are four and five story with the ground floor on the south side housing restaurants and retail uses. At the intersection of The Fenway the character changes dramatically as building on the south side of the street drop away and the park begins; on the north side the Charles Gate East residences form the edge, well set back from the road. See Figure 01 – Area Plan & Context

Boston Zoning

Parcel 13 is located in a B-8-120a zone. This is a small, unique zone extending between Massachusetts Avenue and Fairfield Street covering only the southern half of these three blocks and recognizing the transitional nature of this area between the historic Back Bay buildings and the more modern development on the south side of Boylston Street. Housing and other uses are permitted. There is an FAR of 8 and a 120-foot height limit, which is roughly the height of the 360 Newbury Street building. Section 23-6 of the Boston Zoning Code states that, "When the maximum floor area ratio specified in Table B of Section 13-1 for a lot is 8.0 or 10.0, off-street parking facilities are not required for such lot."

The "Civic Vision" report recommends housing or other low-traffic-generation uses for Parcel 13, with retail uses at street level to generate activity along the parcel's perimeter. New MBTA station entrances, included as part of this project, will also add street-level activity. To enhance that street-level activity, driveways off of Boylston Street were discouraged.

Summary of "A Civic Vision..." as it pertains to Parcel 13

"A Civic Visions for Turnpike Air Rights in Boston" identifies several categories of goals, criteria and recommendations. First are general criteria that have been identified and incorporated as part of this feasibility study and conceptual design. A good example of this is the desire not to have parking visible from Massachusetts Avenue or Boylston Street. Even at a concept level of design this criterion, and others, can be addressed. A second category of criteria are those that need to be addressed and evaluated in the actual design, beyond the conceptual stage. An example of this would be the amount of transparency along the street wall. While conceptual design can maximize the opportunity for continuously occupied frontage along the street, the amount of glazing versus the amount of solid material is resolved at a much more detailed level of design. A third category of criteria are those such as traffic impacts which must be addressed and evaluated once the final mix and amounts of various land uses are determined. This will be based on marketing demands and a pro-forma analysis by the developer, and needs to be coordinated with developments on Parcels 12 and 15.

The "Civic Vision" document can be viewed at:
http://www.bostonredevelopmentauthority.org/Planning/PlanningInitsIndividual.asp?action=ViewInit&InitID=43

Since the publication of "A Civic Vision," a Community Advisory committee (CAC) was formed for Parcels 12 through 15. Presentation to this group along with meeting minutes can be found at:
http://www.bostonredevelopmentauthority.org/document-center?program=62

Hynes Station improvements

A 15% design report was prepared for the MBTA for Hynes station by Kleinfelder in March of 2012 that explored options for upgrading the station for accessibility by adding elevators and included other modifications to improve the character of the station. Station improvements to provide accessibility are a high priority with the MBTA based on the results of a court suit with the Boston Center for Independent Living (BCIL). This report also recommended reopening the Boylston Street headhouse to provide required redundant elevator service. A limitation of the 15% design effort was the need to maintain the existing Massachusetts Avenue entrance. All options in the 15% design report assume the current entrance remains. The existing Boylston Street entrance is currently closed—except as an emergency exit—and is located approximately ten feet below the level of Boylston Street.

The 15% Design Report can be found in the project Bid Room

Once a deck is constructed over the turnpike along Massachusetts Avenue, a new station entrance can be created on that deck. This new entrance can be made large enough that the fare gates, currently at the mezzanine level, can now be accommodated at street level. This simplifies circulation and allows the number of elevators to be reduced. Additionally, a portion of the street level frontage of the 360 Newbury Street building that contains the existing entrance can be returned to retail use. At the Boylston Street entrance, a new headhouse can be incorporated into the air-rights development and located at the Boylston Street elevation allowing direct, universal access to fare collection, elevators and stairs. This new entrance will be closer to the Hynes Convention Center, providing a shorter, more direct connection.

IV. The Range of Options Explored

Six options were explored as part of this feasibility study. They range from a minimal-build option that provides two new entrances to Hynes Station but no air-rights development, to an option that fully covers the entire parcel, along with four intermediate options. Based on the structural analysis and the existing conditions on the site, there are numerous elements that are common to all options. These are described below.

MBTA improvements at Mass Ave and Boylston Street

All alternatives include a new Massachusetts Avenue station entrance located on a deck over the turnpike as well as a new entrance on Boylston Street at street level. Today there are no elevators in the station and only one escalator connection between the westbound platform and a landing below the mezzanine level. In order to make the station accessible, elevators are provided at each entrance. The new Massachusetts Avenue entrance provides space to relocate the fare collection from the mezzanine level to the street level. A new stair from the street-level fair collection area leads to the mezzanine level connecting with the existing stairs to the east- and west-bound platforms. An elevator from street level connects to the mezzanine and continues to the east-bound platform. Elevator access to the west-bound platform is accomplished by transferring across the mezzanine to a second elevator providing service between the mezzanine and platform levels.

At the Boylston Street entrance a new headhouse is constructed at the sidewalk level, providing direct, universal access to fare collection, stairs and elevators. There is no mezzanine level at this location and two sets of stairs and elevators provide connections between the street level and the east and west platforms.

In addition to station accessibility a number of other improvements are necesasary to bring the station into compliance with current codes. These improvements include:

- Public bathrooms at each station entrance

- Repair to the leaking tunnel roof
- Upgrade to the fire alarm system
- Repair of stairways
- Upgrade to the security and communications systems
- Wayfinding and signage improvements
- Floor repairs, and
- Lobby ceiling repair

Delivery & Access from Alley 444

Aside from minor curb-side pick-up and drop-off, deliveries and access to any parking components will be made from Alley 444 which is accessed from Hereford Street. In addition to service and deliveries for any air-rights development, a deck over the Turnpike will allow for a service entrance for the 360 Newbury Street building from the alley. Currently this building is serviced from Newbury Street.

There is currently space for twelve MBTA vehicles to park on top of the Green Line tunnel adjacent to the Boylston Street headhouse and the unit substation. Space for these vehicles must be accommodated in any development option.

Substation Issues and Options

Alternatives A, B, C and D are based on the relocation of the MBTA unit sub-station located between the Turnpike and the Green Line tunnel. See Figure 11 – Option A – Cross Section at Substation.

There are two substation buildings serving the MBTA as well as free standing transformers for Turnpike power. The building abutting 360 Newbury Street on the east side houses the traction power substation and there are no plans to impact this facility. In the yard behind this building (on the south side) there are two rectifying transformers. These transformers need to be located close to the substation and have limited options for replacement locations. Plans shown as part of this feasibility study have relocated the transformers down to the Turnpike level with access from the westbound roadway. The relocation of these transformers would allow a direct service connection over them between Alley 444 and the rear of the 360 Newbury Street Building.

There is also a unit substation on the south wall of the Green Line tunnel that extends one story above the tunnel roof which provides power to the station. Currently the transformers are at the tunnel roof level and there are two cable vaults at the basement (Turnpike) level. The cable vaults should remain in a revised configuration to allow the installation of footings and a column. The transformers would be relocated to the Turnpike level.

Additionally, there are two transformers currently at the turnpike level that supply power to the lights along on the turnpike. These two transformers can be moved to another location within the project boundary or replaced in the Parcel 12 area.

MBTA Emergency Ventilation

The structure housing the emergency ventilation fans, adjacent to the bottom of the ramp in Alley 444, must remain and be incorporated into any air-rights development. Today the fans direct air upward but, with new development above the fan room, the exhausted air will need to be redirected to the side.

Turnpike Ventilation Not Required

Studies of Turnpike coverage for Parcels, 12, 13 and 15 indicate that this portion of the Turnpike covered by air-rights development will not require mechanical ventilation. For more information see *Prudential Tunnel Life Safety Summary Plans*

Impacts to 360 Newbury Street

360 Newbury Street is located at the corner of Massachusetts Avenue. In 2005, it was converted into fifty-four condominiums above three floors of retail space. The building is still occasionally referred to as Tower Records who occupied the retail space from 1989 until 2002. With the closing of Tower Records, followed by the Virgin Megastore, and then Best Buy, the retail space is currently vacant. The design of space over the Turnpike next to this building has been configured so that the floor elevations match those of the second and third floors of 360 Newbury Street. This will allow large, continuous floor plates between Newbury Street and Boylston Street, if desired. See Figure 09 – Option A – Cross section at Zone 1. Although this area is designated as retail space today, it could be used for a health club, classroom or studio space, hotel conference room space, music venue, or other uses to support the overall building program. Air-rights space immediately adjacent to the 360 Newbury Street building is held to three floors so that it does not block the views from the condominiums starting on the fourth floor. A planted roof or a signature rooftop restaurant providing sunset views and overlooking the intersection below could serve as a feature for the development and as a visual amenity for condominium owners.

A new MBTA station entrance on Turnpike air-rights will allow the area currently serving as an entrance to the station to be reclaimed as retail frontage for the building. This space also offers the opportunity to provide an accessible primary entrance to the lobby level which is several feet above the surrounding sidewalk. Roughly 1,350 SF of space on the ground floor of 360 Newbury will be required to accommodate a connection from the new headhouse over the Turnpike to the stairs and elevator that lead to the mezzanine and platform levels. Additionally, an elevator overrun will protrude several feet above the lobby floor in an area near the Newbury Street residential lobby. The relocation of MBTA transformers down to Turnpike level will allow construction of a direct service connection between the ground floor and a loading area at Alley 444 serving both 360 Newbury Street and Parcel 13.

Bus Stops

In all Options, the existing Massachusetts Avenue Route 1 and CT 1 bus stop, currently located on the narrow sidewalk near the corner of Newbury Street, is relocated towards the Boylston Street corner. A wider sidewalk and plaza area can be accommodated on the air-rights deck over the Turnpike. This also allows Cambridge-bound buses to stop on the far side of the intersection which is the MBTA's preferred configuration. The design of the plaza can include bus shelters and other street furniture serving bus patrons that reflect the character of the overall development.

The Route 55 westbound bus stop on Boylston Street will shift slightly eastward to align with the new Boylston Street headhouse

Structural System Approach to Support Air-Rights Development

The structural system to support air-rights development over the Turnpike and Green Line tunnel is similar in all alternatives. The support structures are divided into three zones. See Figures 32 – Building Zones. Zone 1 extends from Massachusetts Avenue eastward to an expansion joint running perpendicular across the Turnpike just east of the transformer yard behind the traction power substation. Zone 1 is the most structurally challenging area and has the smallest capacity for air-rights development: roughly three to four stories. Zone 2 extends from the expansion joint eastward to the west side of the proposed Boylston Street headhouse. The capacity is somewhat higher here and six to eight stories can be accommodated. Zone 3 is principally over the Green Line tunnel and has the most solid ground for foundations and therefore the highest loading capacity of approximately twenty stories.

Caissons (or mini-piles) will be drilled along the shoulder of the Turnpike adjacent to 360 Newbury Street and in the Turnpike median to provide support for Zone 1. Larger caissons will be drilled in the area currently occupied by the unit substation, along the existing service road, and on the north side of the Green Line tunnel. Groups of caissons in these areas will be connected with pile caps to provide lateral stability. See Figure 34 – Caisson and Pile Cap Locations.

Modifications to Existing Boylston Street Bridge Structure

While the goals of this feasibility study include minimizing impacts to the existing Boylston Street bridge structure, a number of modifications are required. At selected locations the foundation and column cap will be reconstructed to create sleeves for building supports that are independent of the bridge structure. See Figure 35 - Foundation and Column Cap Details.

Construction Staging and Mass Pike Operations Impacts

Some lane closures will be required on the Turnpike while foundations are being constructed. Work will be scheduled at off-peak times and coordinated with any other Turnpike reconstruction work that will also require lane closures. A detailed construction phasing plan was not prepared as part of this feasibility study. For more information see *Prudential Tunnel Life Safety Summary Plans*

Development Options

The six options explored as part of this feasibility study range from a maximum of over 320,000 SF for Option A, to a minimal plan of only new MBTA headhouses and station improvements, shown in Option F. The options are summarized in the following table.

Table 1 – Square Foot Breakout by Option

	Option A	Option B	Option C	Option D	Option E	Option F
Total SF of development	320,269	296,943	271,676	262,477	159,716	7,588
MBTA	7,588	7,623	7,623	7,623	7,174	7,588
Retail	53,092	36,059	39,813	56,383	3,003	0
Residential	174,273	200,321	173,765	143,058	117,290	0
Parking	28,910	0	0	0	0	0
Common	56,406	52,940	50,475	44,989	32,249	0
FAR	6.0	5.6	5.1	4.7	3.0	0.1
Percent of allowable FAR utilized	75%	70%	64%	59%	38%	2%
Number of floors in Zone 1	3	5	3	3	1	1
Number of floors in Zone 2	8	8	8	3	1	1
Number of floors in Zone 3	15	15	15	15	15	0
Parking spaces provided	120	0	0	0	0	0

V. Option A

In Zone 1, Option A provides significant retail floor space at the corner of Massachusetts Avenue and Boylston Street in order to maximize street level activity. A new station entrance is located off of Massachusetts Avenue. Plaza areas along Massachusetts Avenue provide a welcoming entrance to the station and space for waiting bus patrons. On the second and third floors additional space for retail or other uses is provided on a roughly 15,000 SF floor plate. The floor elevation are aligned with the second and third floor retail space in the abutting 360 Newbury Street building to accommodate combining floor plates if desired. The roof of the Zone 1 building is treated as a roof garden to provide storm water capture and as well as an attractive feature for residents in the upper floors of 360 Newbury Street. If desired, a restaurant or other use could be accommodated on the roof. See Figure 05 – Option A –Level 1; Figure 06 – Option A – Levels 2 and 3; Figure 07 – Option A – Levels 4+5+6; Figure 08 – Levels 7+8.

Zone 2 is configured as seven floors of residences over a retail and service area base at street level. The retail space would front on Boylston Street along with an entrance lobby for the residential units. The Alley side of the floor would accommodate service areas for the building as well as an entrance to a parking garage. The parking plan shown on the drawings is configured for automated mechanical parking with low floor-to-floor dimensions. A more traditional valet parking garage could also be included but would require the entire building width between the alley and Boylston Street, have higher floor-to-floor heights, and reduce the number of residential units. Although parking is included in this option, because this site is in a B-8-120a zone with an FAR of 8, it is not required that parking be provided.

Zone 3 has the highest structural capacity and therefore the tallest building element. This option shows thirteen floors of residential units over a ground floor of retail space, residential lobby entrance and an MBTA station entrance. The lower residential floors that correspond to Zone 2 are connected and this connection provides and additional means of egress for the units. In this option, Zone 3 exceeds the 120-foot height limit in the Boston Zoning Code but compensates for the low number of floors that are able to be accommodated on Zone 1. View from this tower element to the west, north and east will be dramatic.

Option A utilizes a series of two-story trusses to span between supports where traditional foundations are not feasible. These trusses encompass the second and third stories and the first floor is hung from them. Trusses that face Boylston Street are configured as Vierendeel trusses to maximize the area for windows along the street frontage.

The total development area for this option is 320,269 SF and uses 75% of the allowable FAR.

VI. Option B

Option B is configured as residential over retail space. In this option the residential units are configured as hotel rooms or dormitory space, possibly for students at the Berklee College of Music or the Boston Architectural College. Option B contains no parking and provides service and delivery access from Alley 444. See Figure 15 – Option B –Level 1; Figure 16 – Option B – Level 2; Figure 17 – Option B – Level 3; Figure 18 – Option B – Levels 4+5.

In Zone 1 there are two floors of retail space shown. However, the second floor could be used for educational program space such as classrooms, or a hotel conference space. Residential uses comprise the third, fourth and fifth floors. At a total of five floors, Option D has the highest building massing for this zone of those studied. As in other options, the second and third floor elevations align with those in the 360 Newbury Street building. Space for a service connection to 360 Newbury Street from Alley 444 is provided. The use of large trusses in this zone allows the building to front on Boylston Street, similar to Option E.

In Zone 2 the floor plate is fairly narrow and oriented parallel to the Turnpike. This configuration provides space for a plaza in front of the street-level retail space and, as it is south facing, would be a good location for an outdoor café like those found along much of Boylston Street in the blocks to the east. The narrower, 55-foot wide, floor plate results from using only the caisson foundations rather than any large trusses. A small cantilever is utilized on either side of the foundation supports. The five floors of residences are a continuation of those in Zone 1 and extent to Zone 3. Four sloped trusses at the street level form a truncated pyramid and transfer the loads from the upper floors to the foundations.

The building in Zone 3 takes advantage of the space for foundations on either side of the Green Line tunnel and provides fourteen floors of residential units over a ground floor of retail with entrances for a residential lobby and station entrance.

The total development area for this option is 296,943 SF and uses 70% of the allowable FAR.

VII. Option C

Option C's principal land use is residential that is built over a street-level base of retail. The residential floors are configured as dormitory or hotel space, similar to Option B. This option does not provide off-street parking. See Figure 20 – Option C – Level 1; Figure 21 – Option C – Levels 2+3; Figure 22 – Option C – Level 4+Roof.

Zone 1 consists of a first floor of approximately 9,000 SF of retail space, abutting a new MBTA headhouse, and includes an approximate 6,000 SF plaza at the corner fronting on the retail space. The second and third floors in this zone each contain approximately 11,000 SF of space for retail, or other uses. Similar to other options, the floor elevations align with the adjacent floors in the 360 Newbury Street building and could be combined with them for larger floor plates. Space for a connection to 360 Newbury Street from Alley 444 is provided for service access.

Zone 2 contains seven floors of residential units over one floor of retail and service space. Similar to Option B, the floor plate for this option is fairly narrow and oriented parallel to the Turnpike. A plaza fronts on the retail space and could accommodate outdoor dining. Four sloped trusses at the street level form a truncated pyramid and transfer the loads from the upper floors to the foundations.

Zone 3 is identical to Option B and provides connections to the building in Zone 2 on floors 2 through 5. The building in Zone 3 is parallel to the street and the street-level floor contains retail space, a lobby entrance for the upper level residential floors, and an entrance to the MBTA station.

The total development area for this option is 271,676 SF and uses 64% of the allowable FAR.

VIII. Option D

Option D is similar to Option C in zones 1 and 3. In zone 2, additional retail space on the upper floors replaces residential uses. The total development area for this option is 262,477 SF and uses 59% of the allowable FAR.

See Figure 24 – Option D – Level 1; Figure 25 – Option D – Levels 2+3.

IX. Option E

This option is a minimal build alternative providing new entrances to the MBTA station and utilizes only Zone 3 for air-rights development. See Figure 26 – Option E – Level 1.

In Zone 1, a deck over the Turnpike is constructed only over the westbound lanes near the Massachusetts Avenue edge of the parcel. This provides for a new entrance to the MBTA station fronted by a small plaza. A twelve-foot sidewalk along the remainder of the Massachusetts Avenue frontage provides space for bus passenger waiting.

Zone 2 has no development over the Turnpike with only a small portion of the new Boylston Street headhouse over the Green Line tunnel. With this option the existing unit substation can remain.

Zone 3 is similar to the other options with nineteen residential floors over a street level with retail space, a residential lobby, and MBTA station entrance fronting on Boylston Street and with service uses on the alley side of the site.

The total development area for this option is 159,716 SF and uses 38% of the allowable FAR.

This option requires significantly less foundation structures and minimizes construction impacts on the Turnpike. However, it leaves large areas of the turnpike exposed which greatly diminishes the advantages of this option compared to the others.

X. Option F

This option is a minimal-build alternative providing new entrances to the MBTA station but no air-rights development. See Figure 28 – Option F – Level 1.

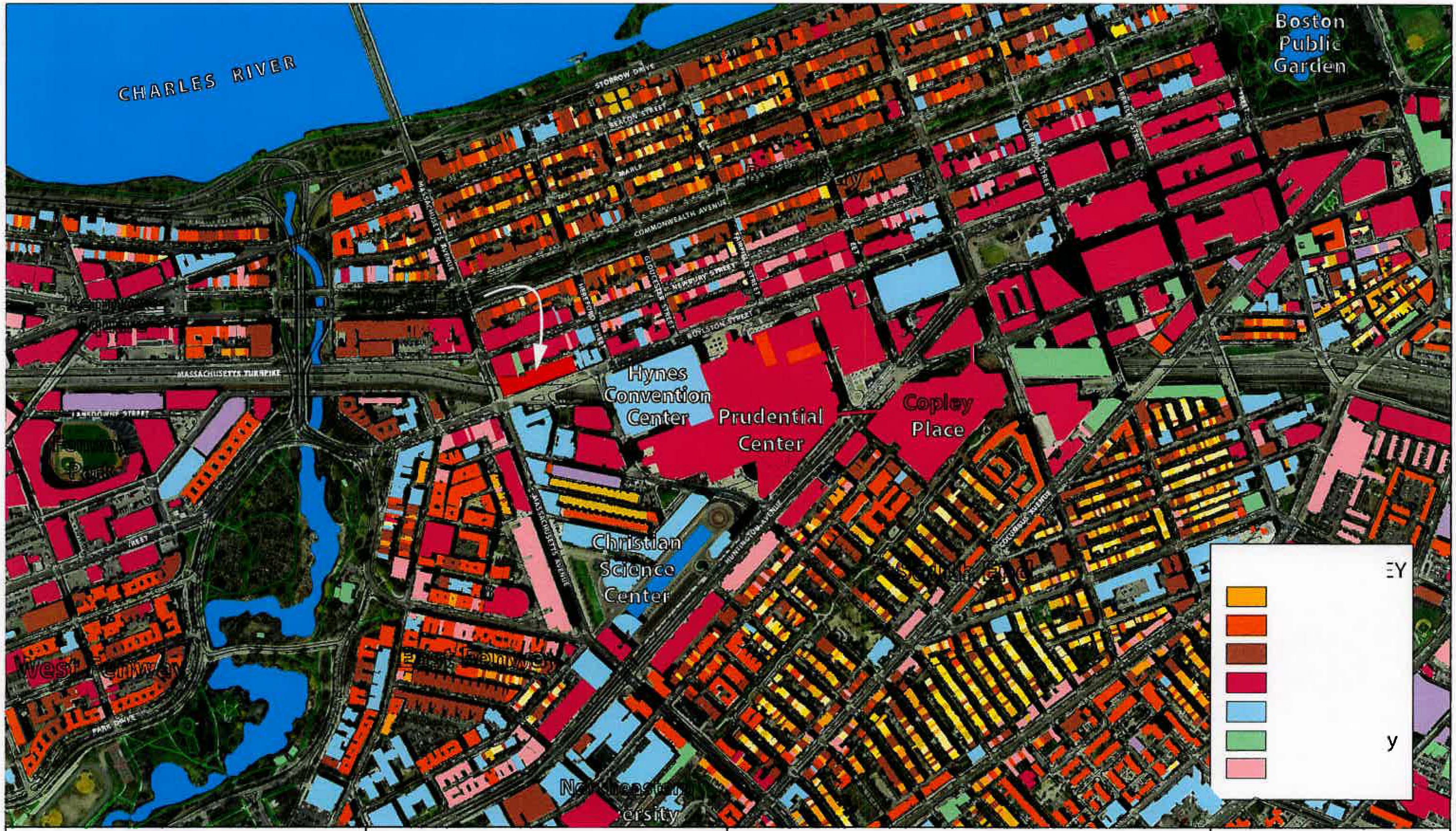
In Zone 1, a deck over the Turnpike is constructed only over the westbound lanes near the Massachusetts Avenue edge of the parcel. This provides for a new entrance to the MBTA station fronted by a small plaza. A twelve-foot sidewalk along the remainder of the Massachusetts Avenue frontage provides space for bus passenger waiting.

Zone 2 has no development over the Turnpike with only a small portion of the new Boylston Street headhouse over the Green Line tunnel. With this option the existing unit substation can remain.

Zone 3 contains the MBTA station entrance fronting on Boylston Street and provides service access on the alley side of the site.

The total development area for this option is 7,588 SF and uses 2% of the allowable FAR.

This option requires minimal foundation structures and minimizes construction impacts on the Turnpike. Like Option E, this option does not take full advantage of the air-rights potential to cover the turnpike and improve the urban environment.

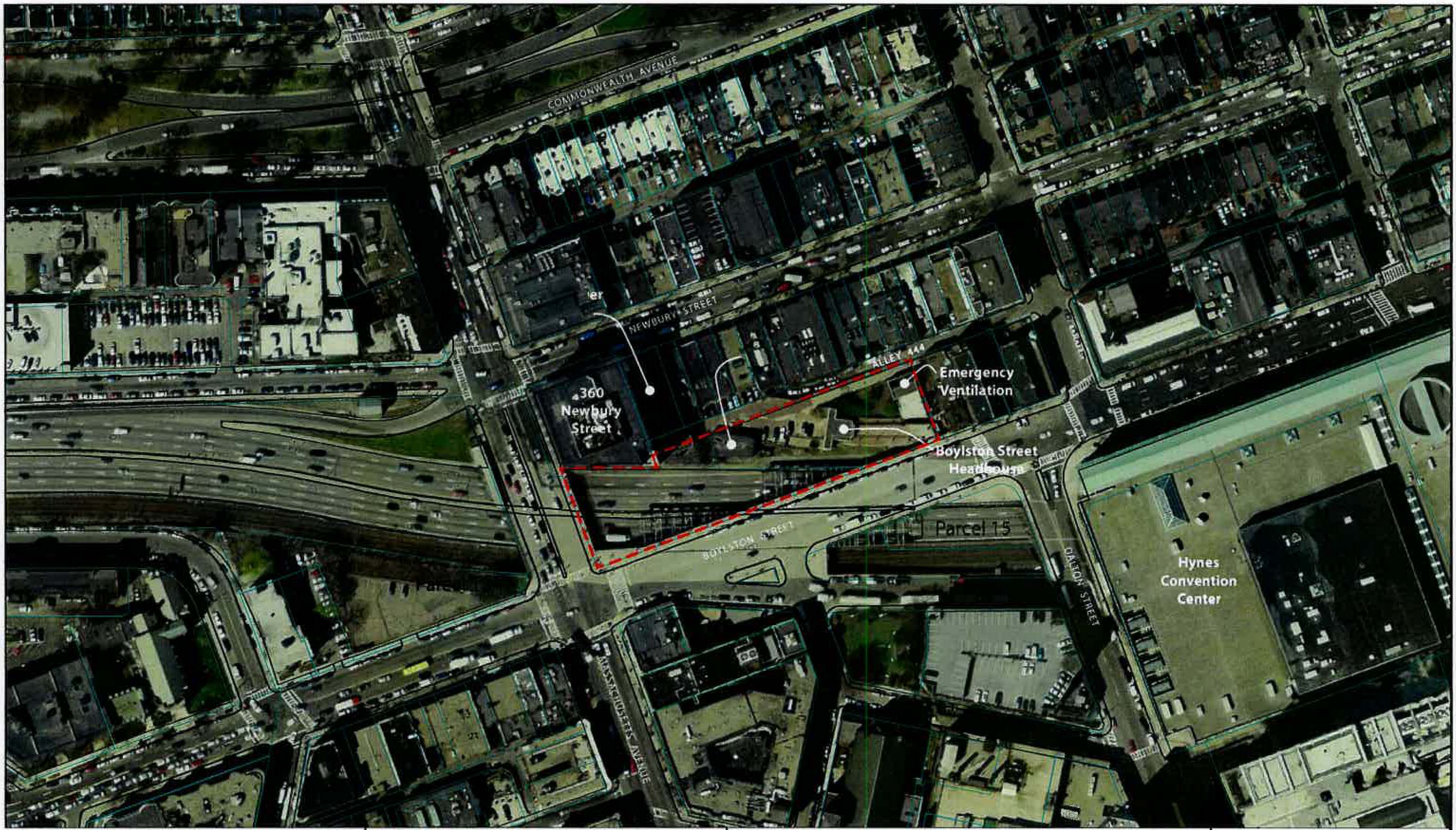


PARSONS BRINCKERHOFF

KLEINFELDER

massDOT

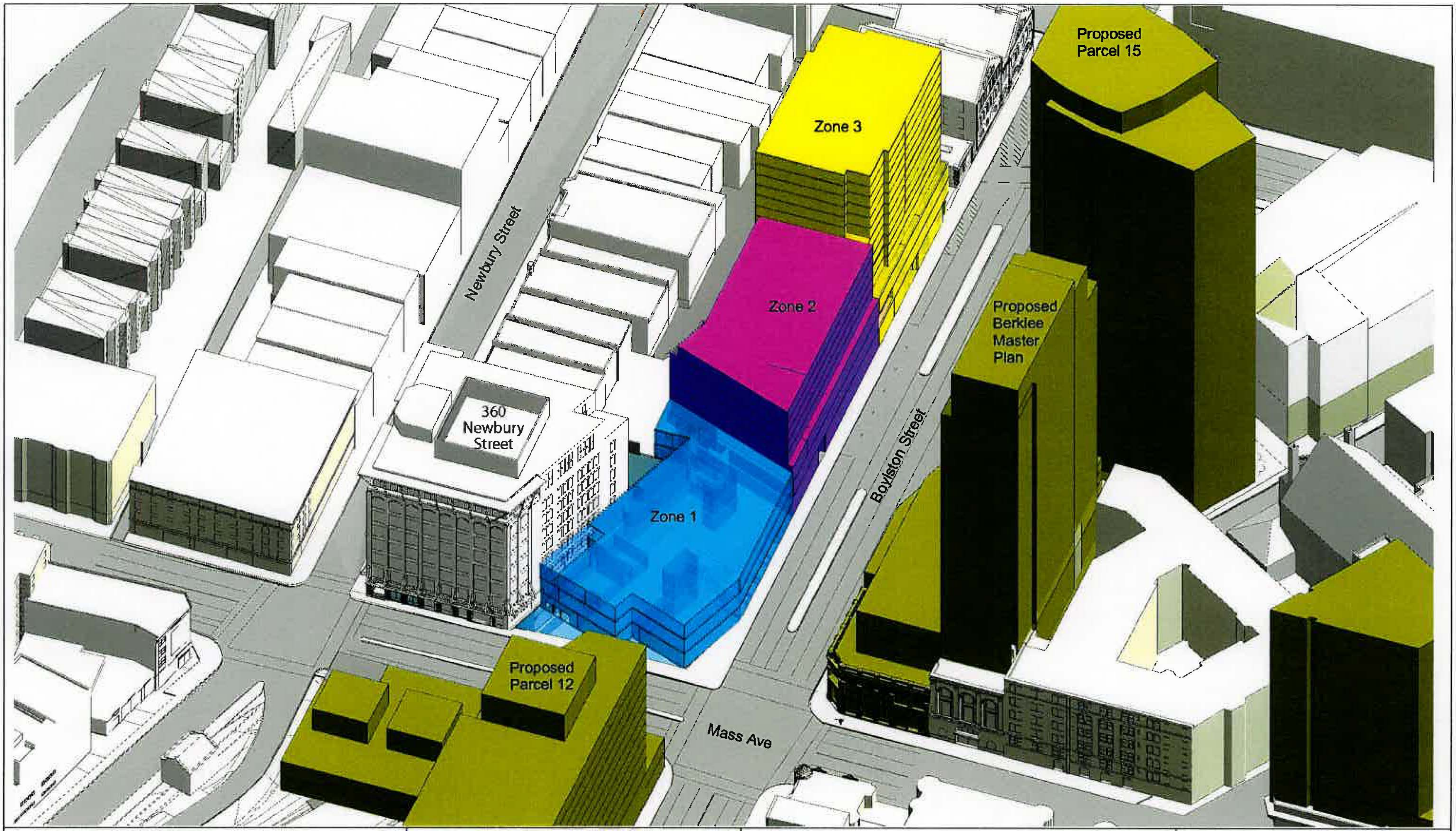
Figure 01:
Area Plan & Context



PARSONS BRINCKERHOFF

KLEINFELDER
Bright People. Right Solutions.

Moving Massachusetts Forward
massDOT



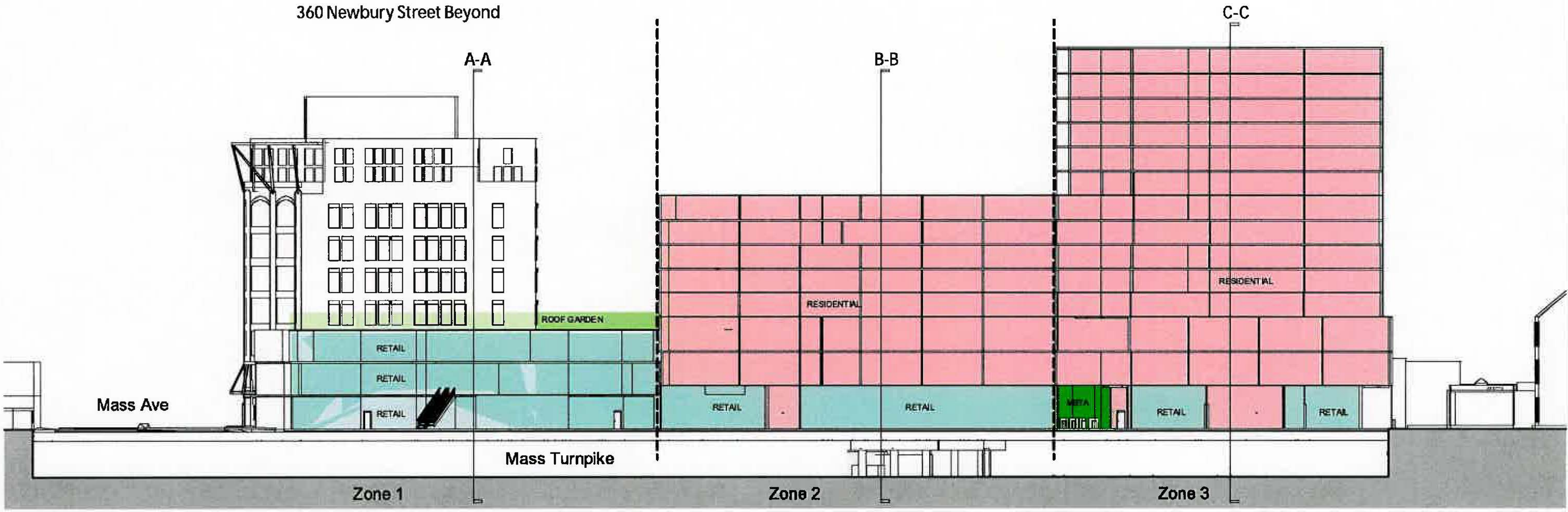
PARSONS BRINCKERHOFF
Structural Engineer, Project Manager

KLEINFELDER
Bright People. Right Solutions.
Architect

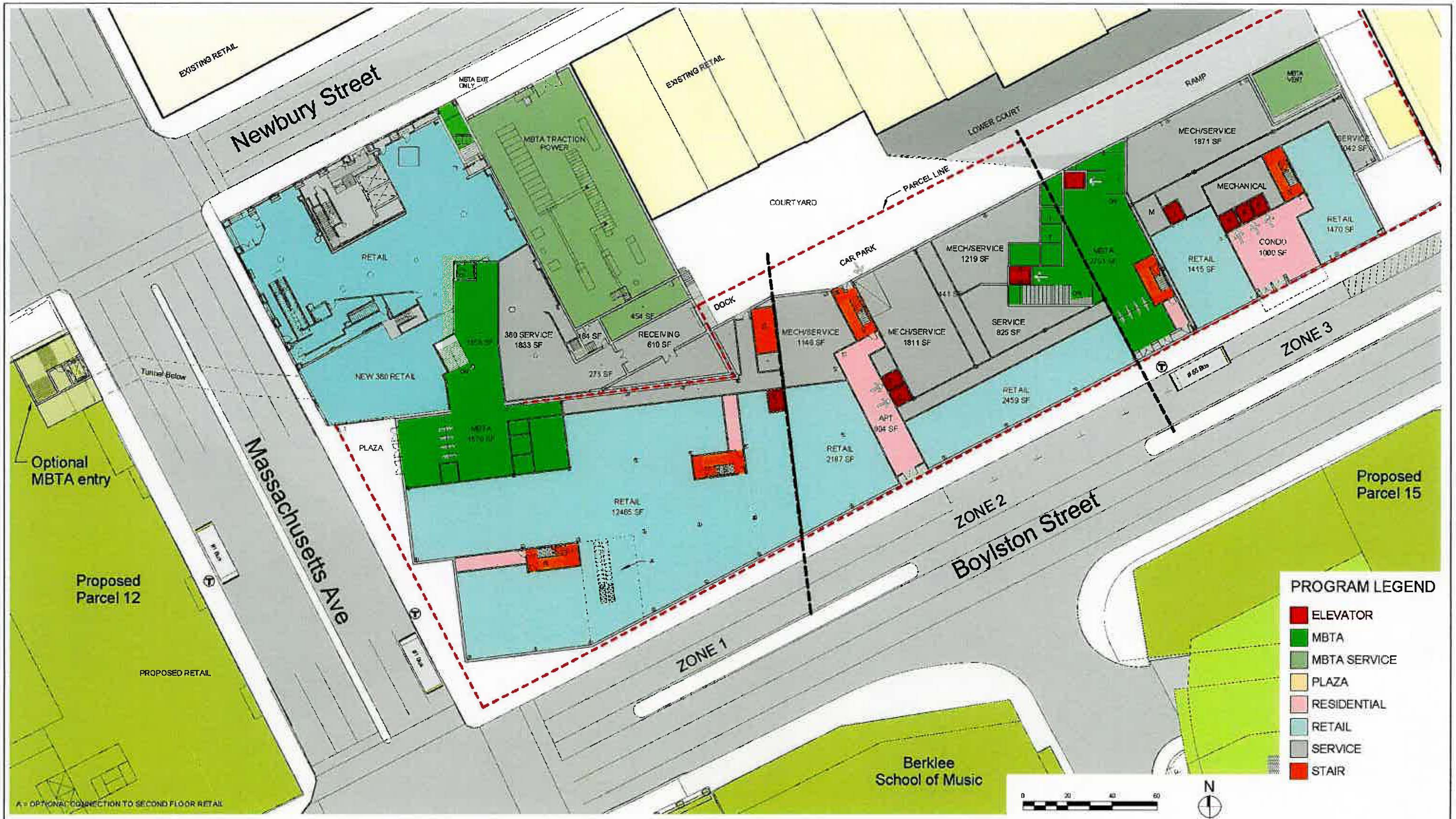
Moving Massachusetts Forward
massDOT

PARCEL 13 AIR RIGHTS

Figure 03:
Option A
Aerial View



PARSONS BRINCKERHOFF Structural Engineer, Project Manager KLEINFELDER Bright People. Right Solutions. Architect	Moving Massachusetts Forward massDOT	PARCEL 13 AIR RIGHTS	Figure 04: Option A Longitudinal Section



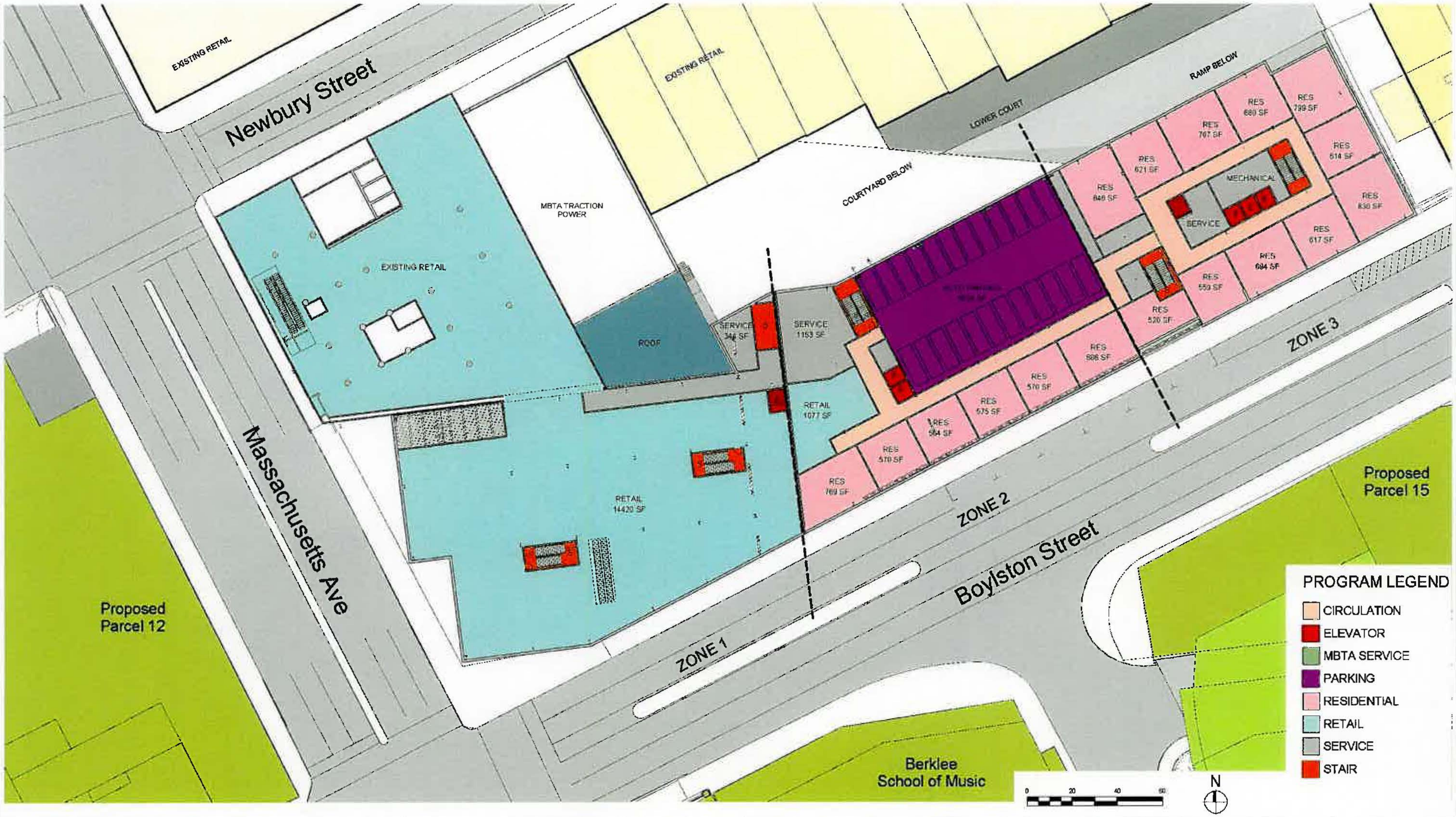
PARSONS BRINCKERHOFF
Structural Engineer, Project Manager

KLEINFELDER
Bright People. Right Solutions.
Architect

Moving Massachusetts Forward
massDOT

PARCEL 13 AIR RIGHTS

Figure 05:
Option A
Level 1



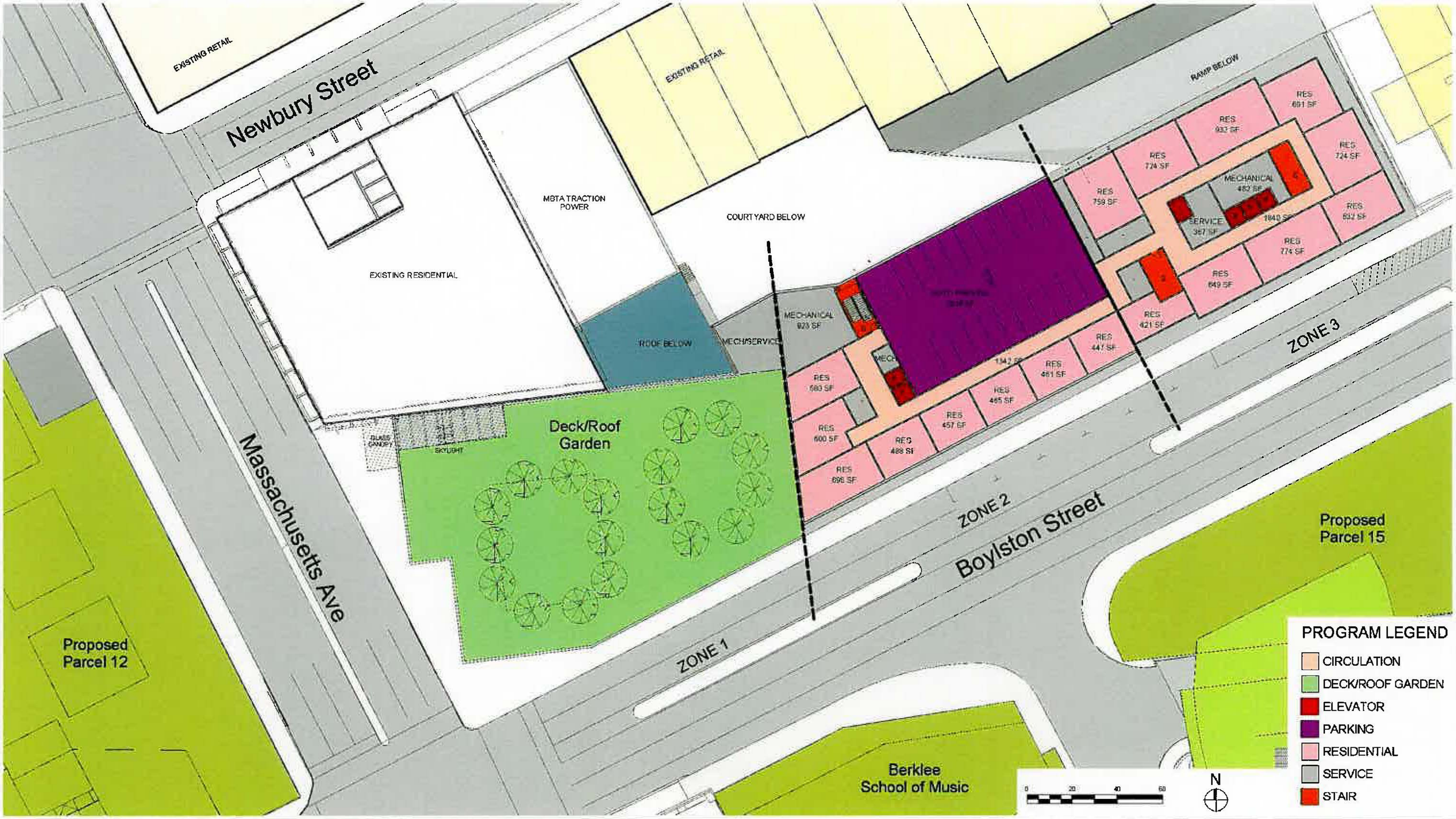
PARSONS BRINCKERHOFF
Structural Engineer, Project Manager

KLEINFELDER
Bright People. Right Solutions.
Architect

Moving Massachusetts Forward
massDOT

PARCEL 13 AIR RIGHTS

Figure 06:
Option A
Levels 2 + 3



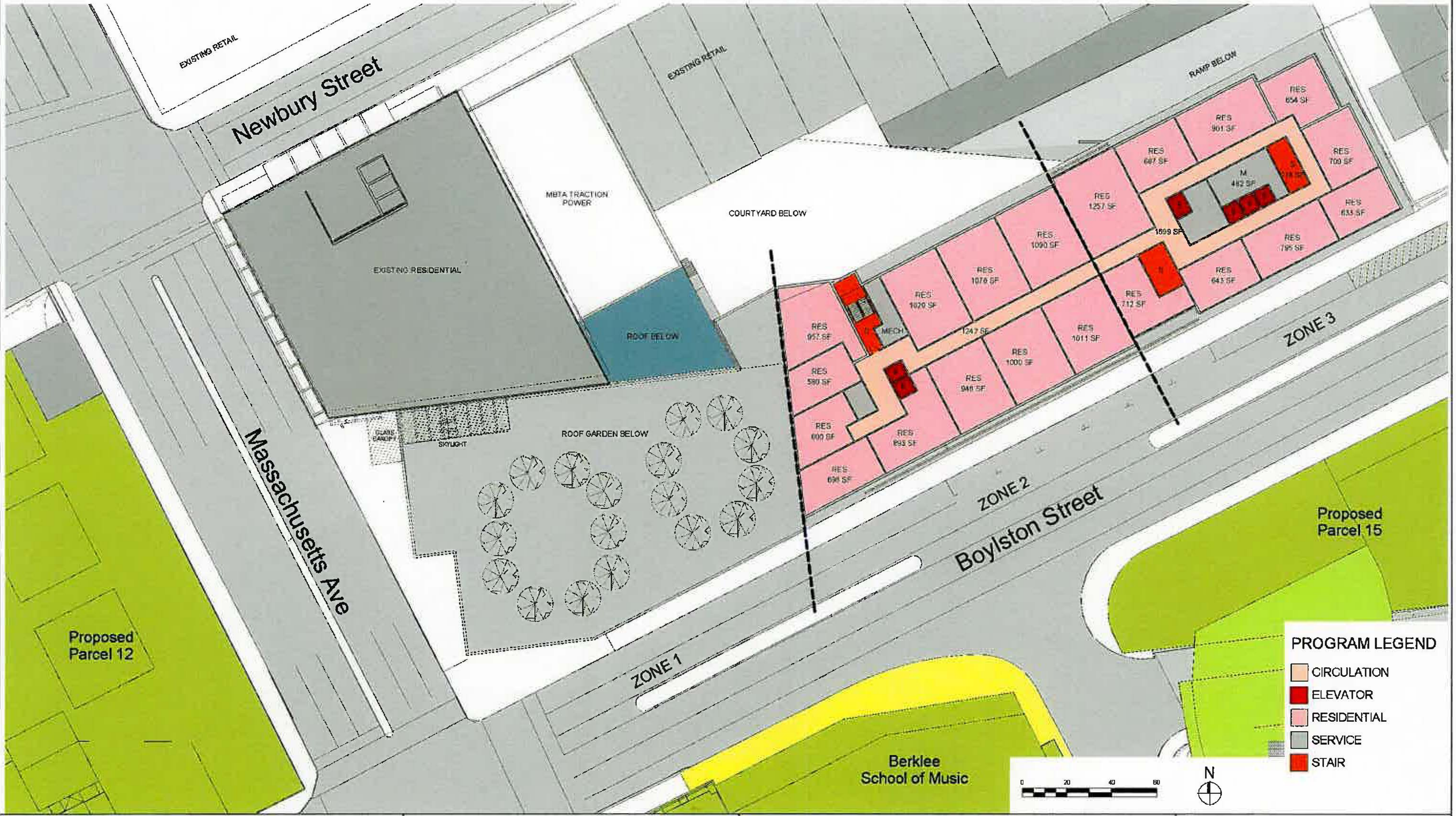
PARSONS BRINCKERHOFF
Structural Engineer, Project Manager

KLEINFELDER
Bright People. Right Solutions.
Architect

Moving Massachusetts Forward
massDOT

PARCEL 13 AIR RIGHTS

Figure 07:
Option A
Levels 4 + 5 + 6



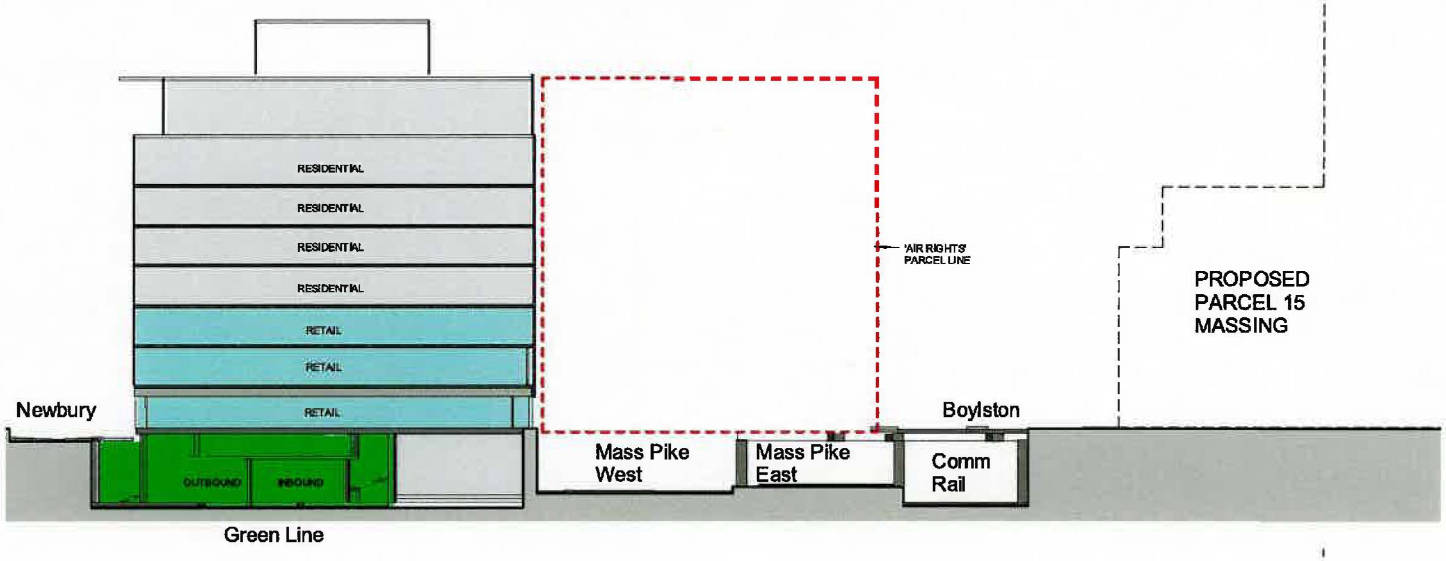
PARSONS BRINCKERHOFF
Structural Engineer, Project Manager

KLEINFELDER
Bright People. Right Solutions.
Architect

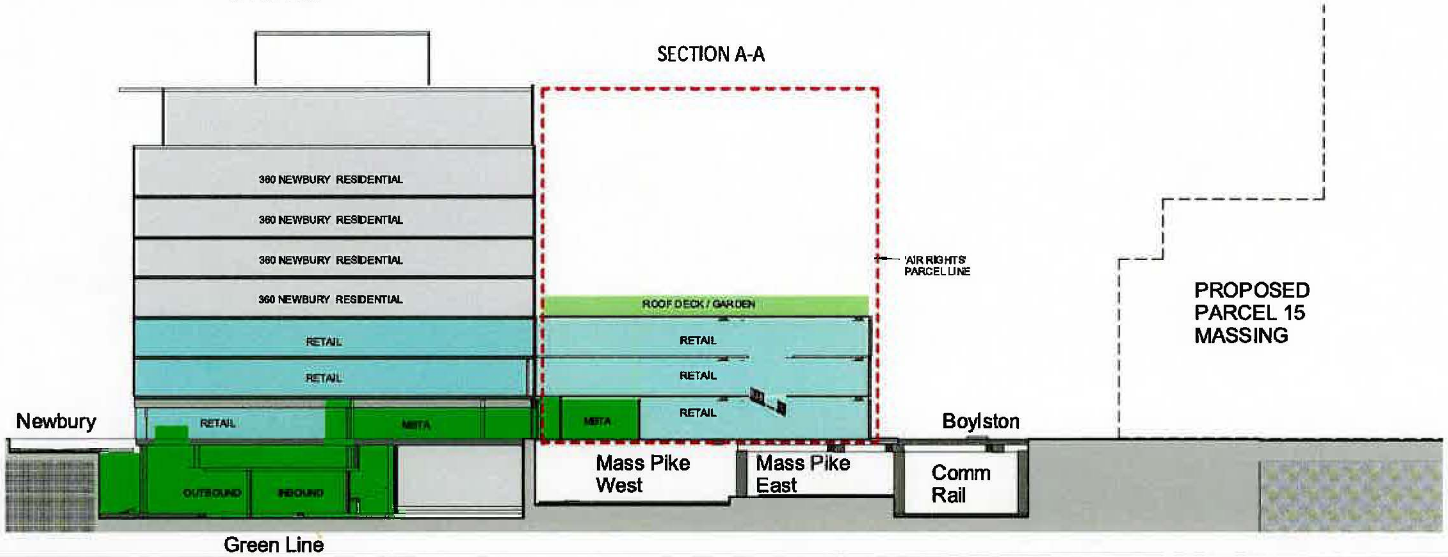
Moving Massachusetts Forward
massDOT

PARCEL 13 AIR RIGHTS

Figure 08:
Option A
Levels 7 + 8



SECTION A-A



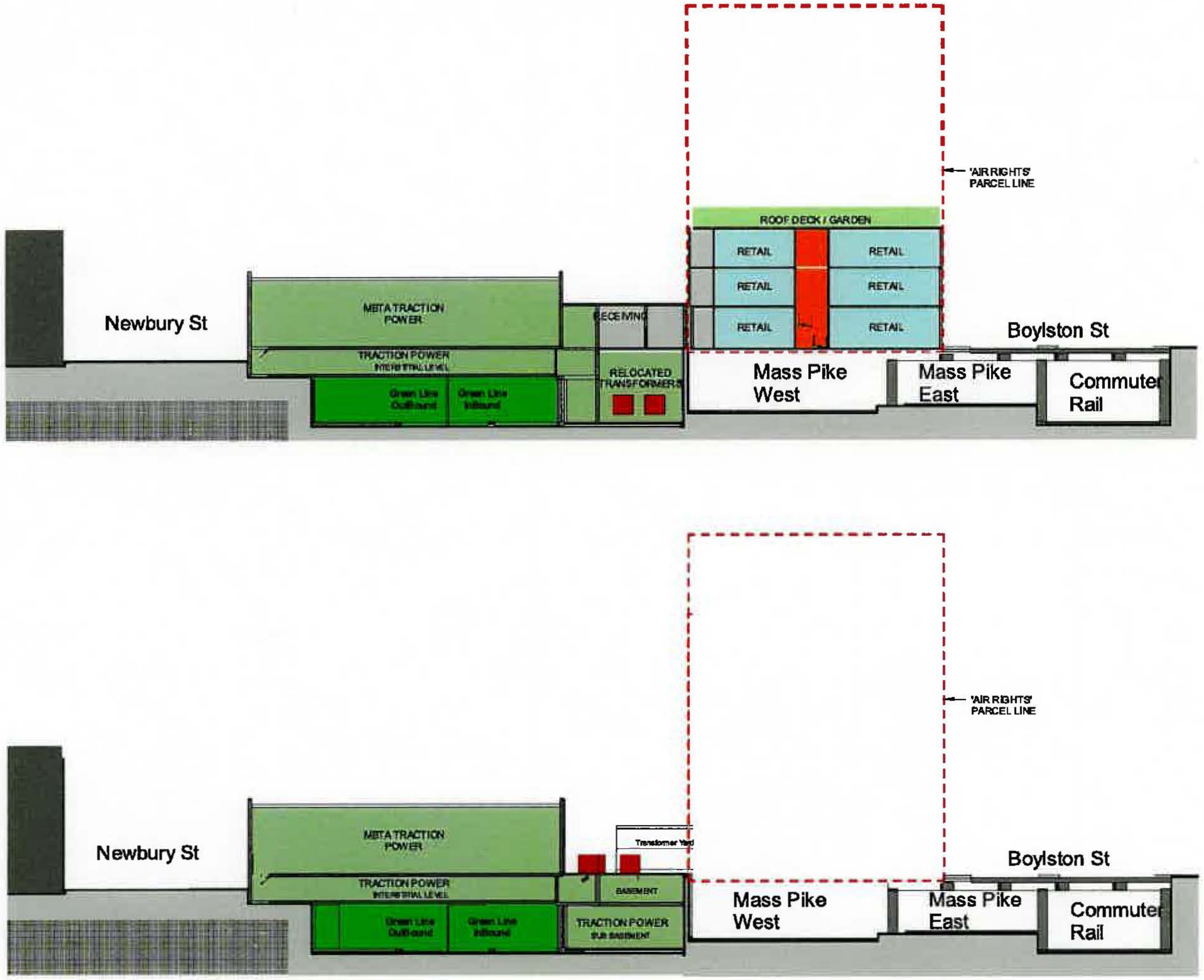
PARSONS BRINCKERHOFF
Structural Engineer, Project Manager

KLEINFELDER
Bright People. Right Solutions.
Architect

Moving Massachusetts Forward
massDOT

PARCEL 13 AIR RIGHTS

Figure 09:
Option A
Sections at Zone 1



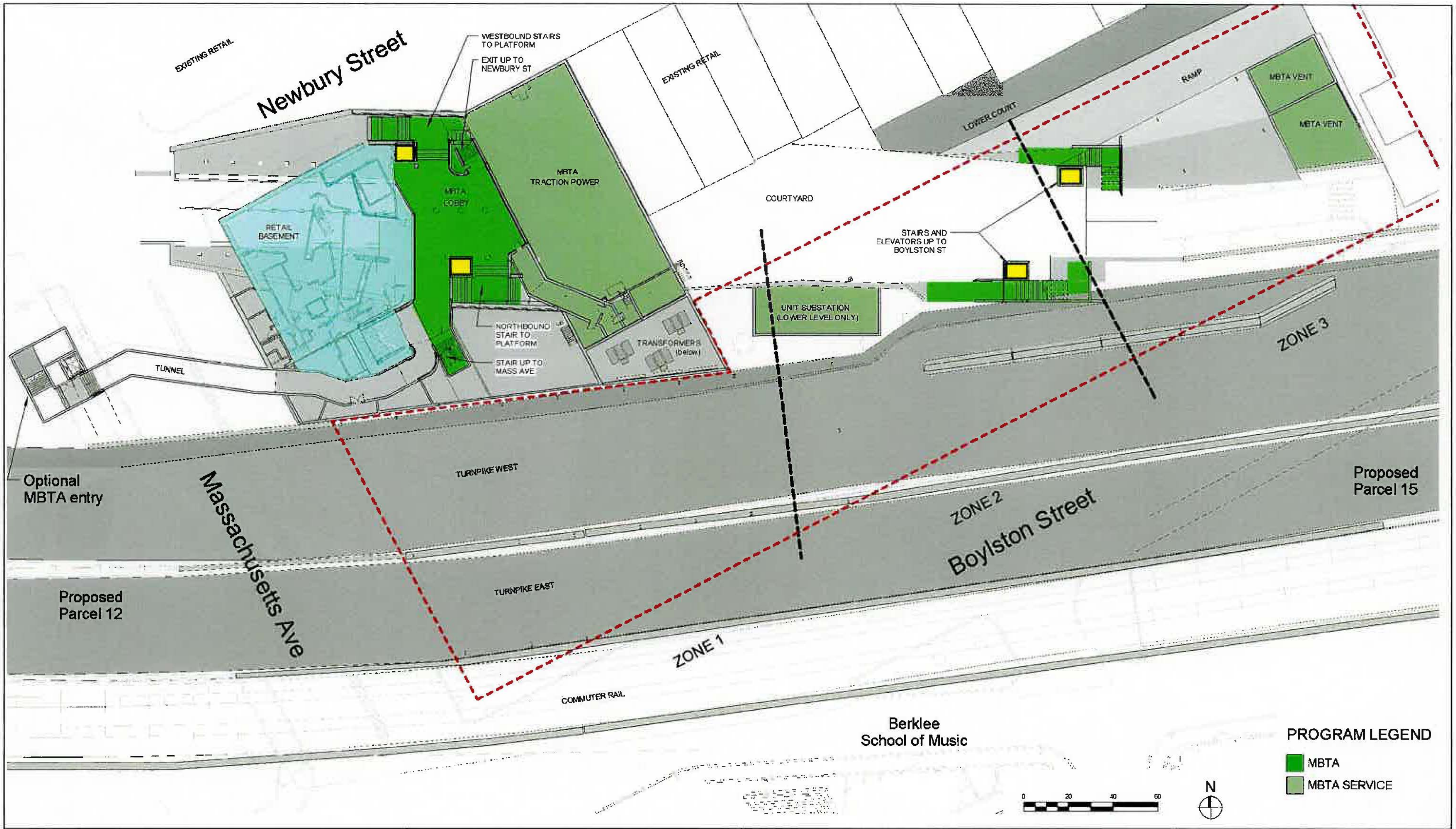
PARSONS BRINCKERHOFF
Structural Engineer, Project Manager

KLEINFELDER
Bright People. Right Solutions.
Architect

Moving Massachusetts Forward
massDOT

PARCEL 13 AIR RIGHTS

Figure 11:
Option A
Cross Sections at Substation



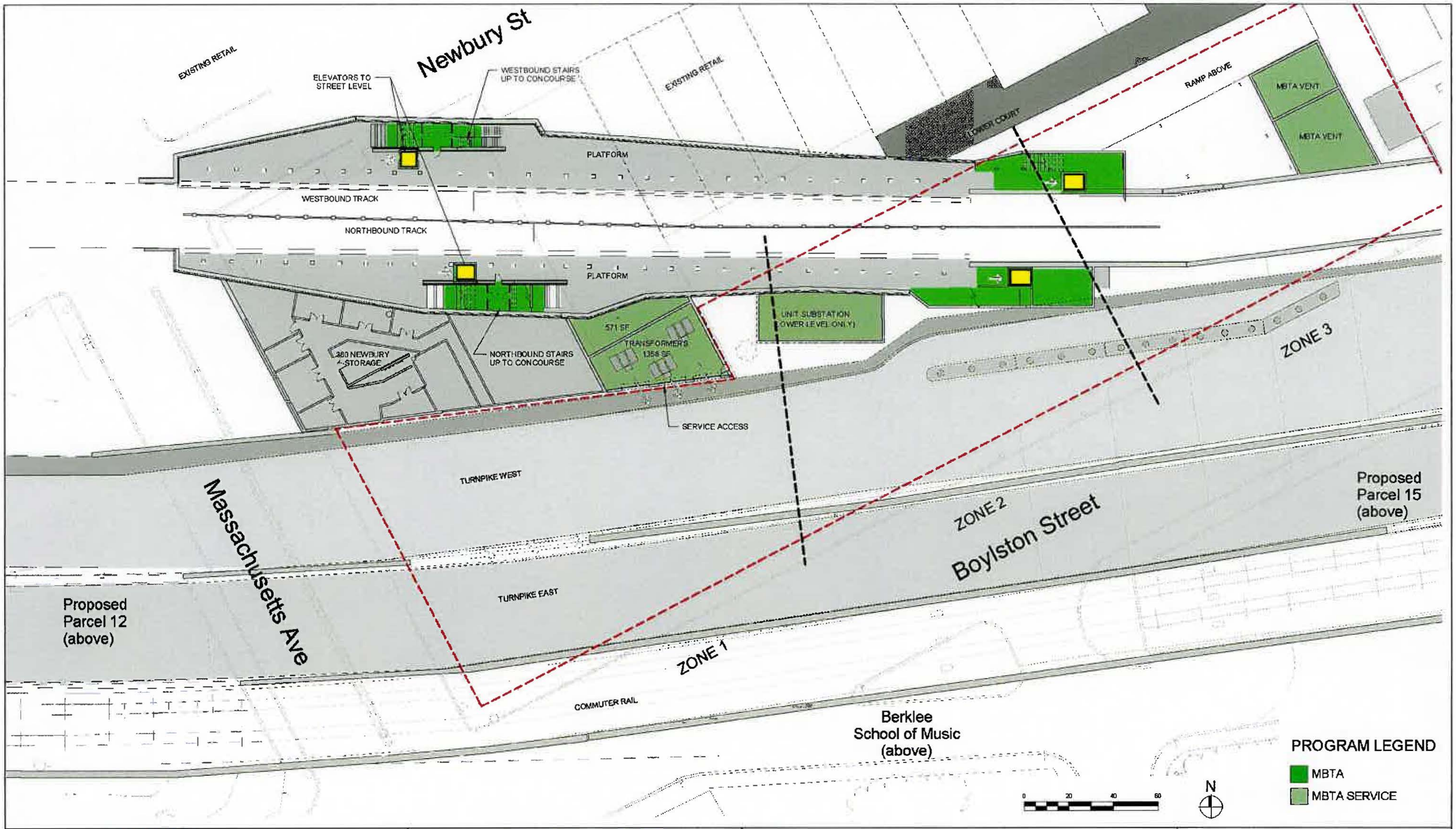
PARSONS BRINCKERHOFF
Structural Engineer, Project Manager

KLEINFELDER
Bright People. Right Solutions.
Architect

Moving Massachusetts Forward
massDOT

PARCEL 13 AIR RIGHTS

Figure 12:
Option A+B+C
Mezzanine Level



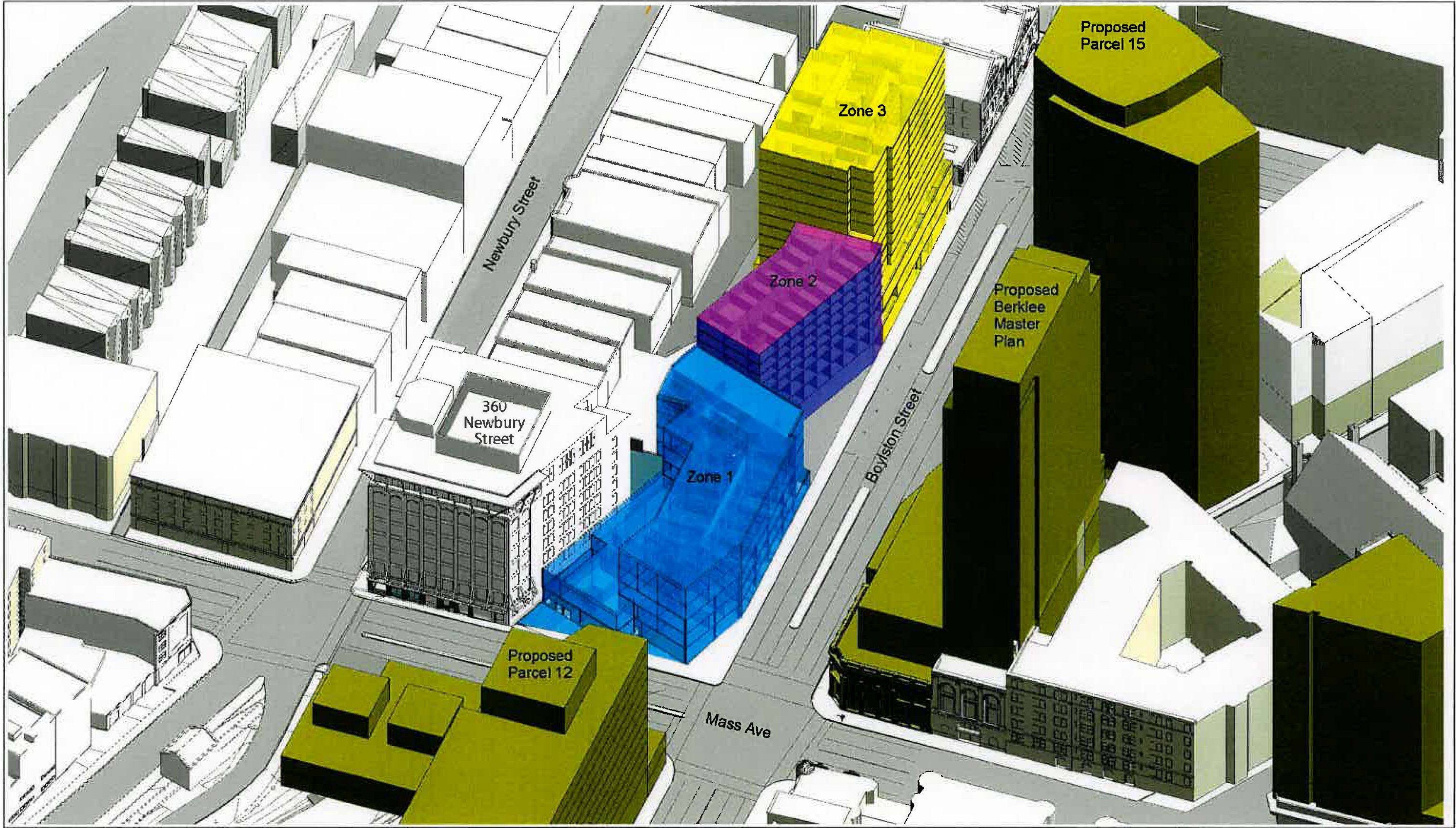
PARSONS BRINCKERHOFF
Structural Engineer, Project Manager

KLEINFELDER
Bright People. Right Solutions.
Architect

Moving Massachusetts Forward
massDOT

PARCEL 13 AIR RIGHTS

Figure 13:
Option A+B+C
Platform Level



PARSONS BRINCKERHOFF
Structural Engineer, Project Manager

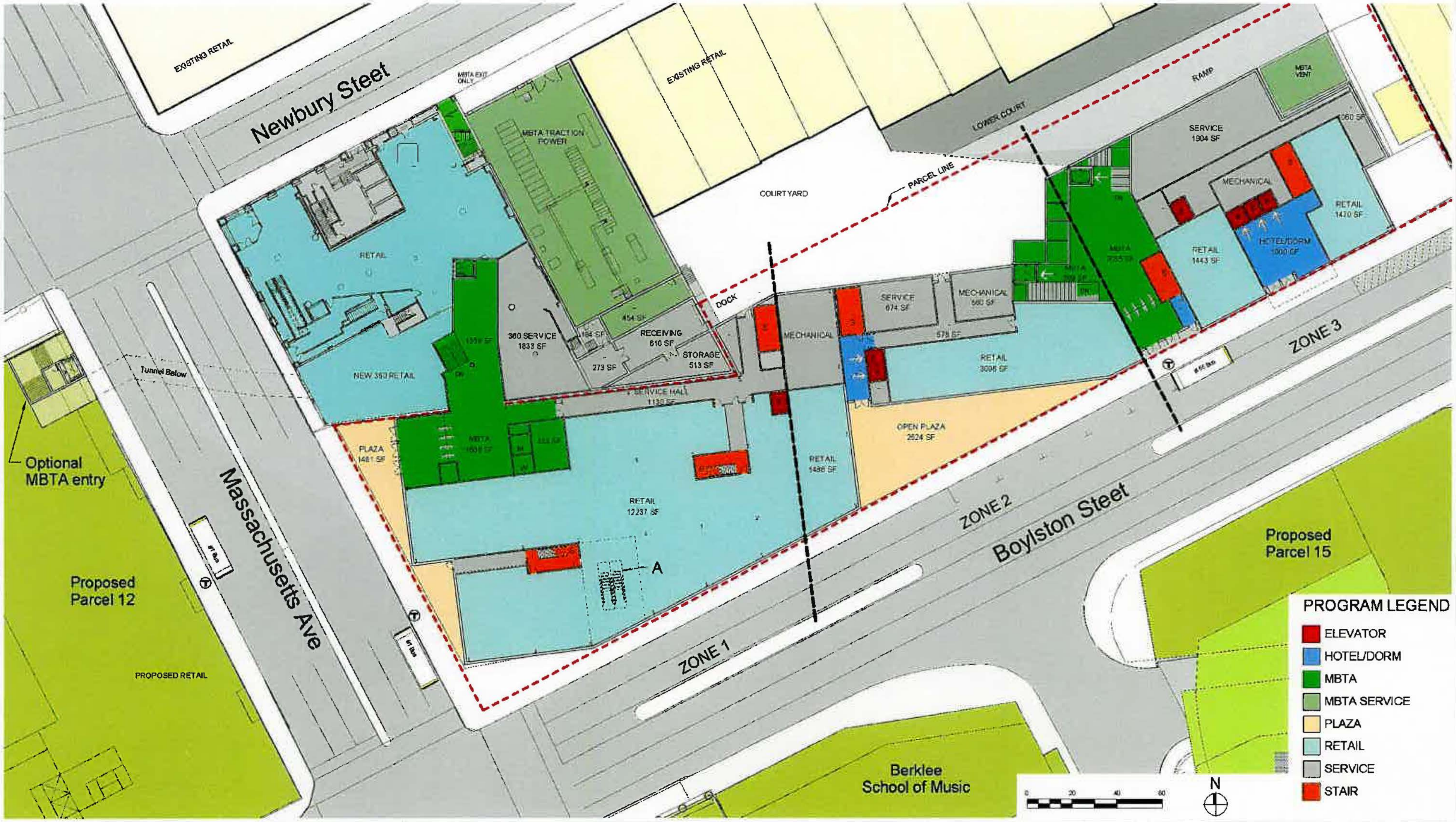
KLEINFELDER
Bright People. Right Solutions.
Architect

Moving Massachusetts Forward.
massDOT

T

PARCEL 13 AIR RIGHTS

Figure 14:
Option B
Aerial View



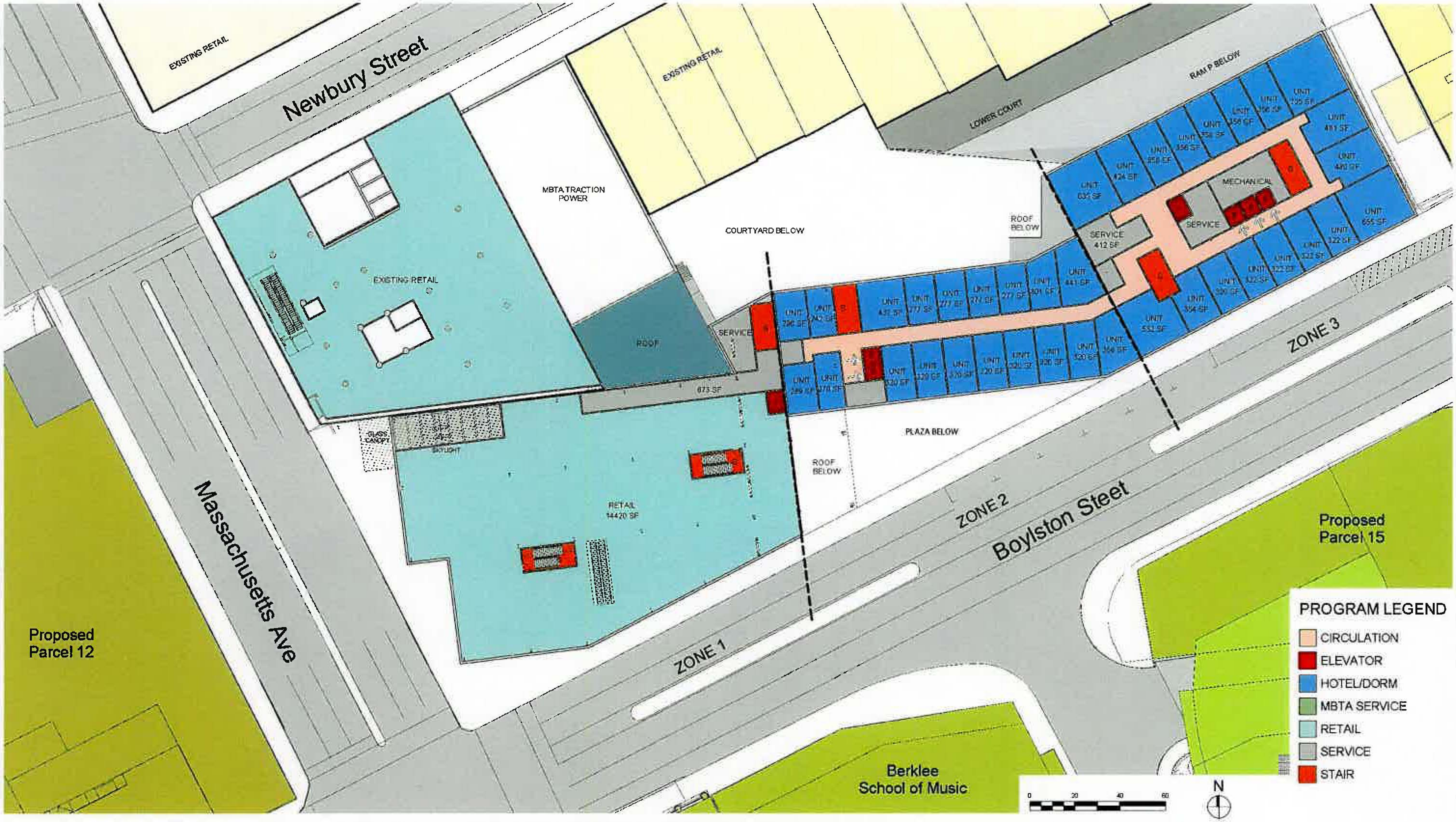
PARSONS BRINCKERHOFF
Structural Engineer, Project Manager

KLEINFELDER
Bright People. Right Solutions.
Architect

Moving Massachusetts Forward
massDOT

PARCEL 13 AIR RIGHTS

Figure 15:
Option B
Level 1



PARSONS BRINCKERHOFF
Structural Engineer, Project Manager

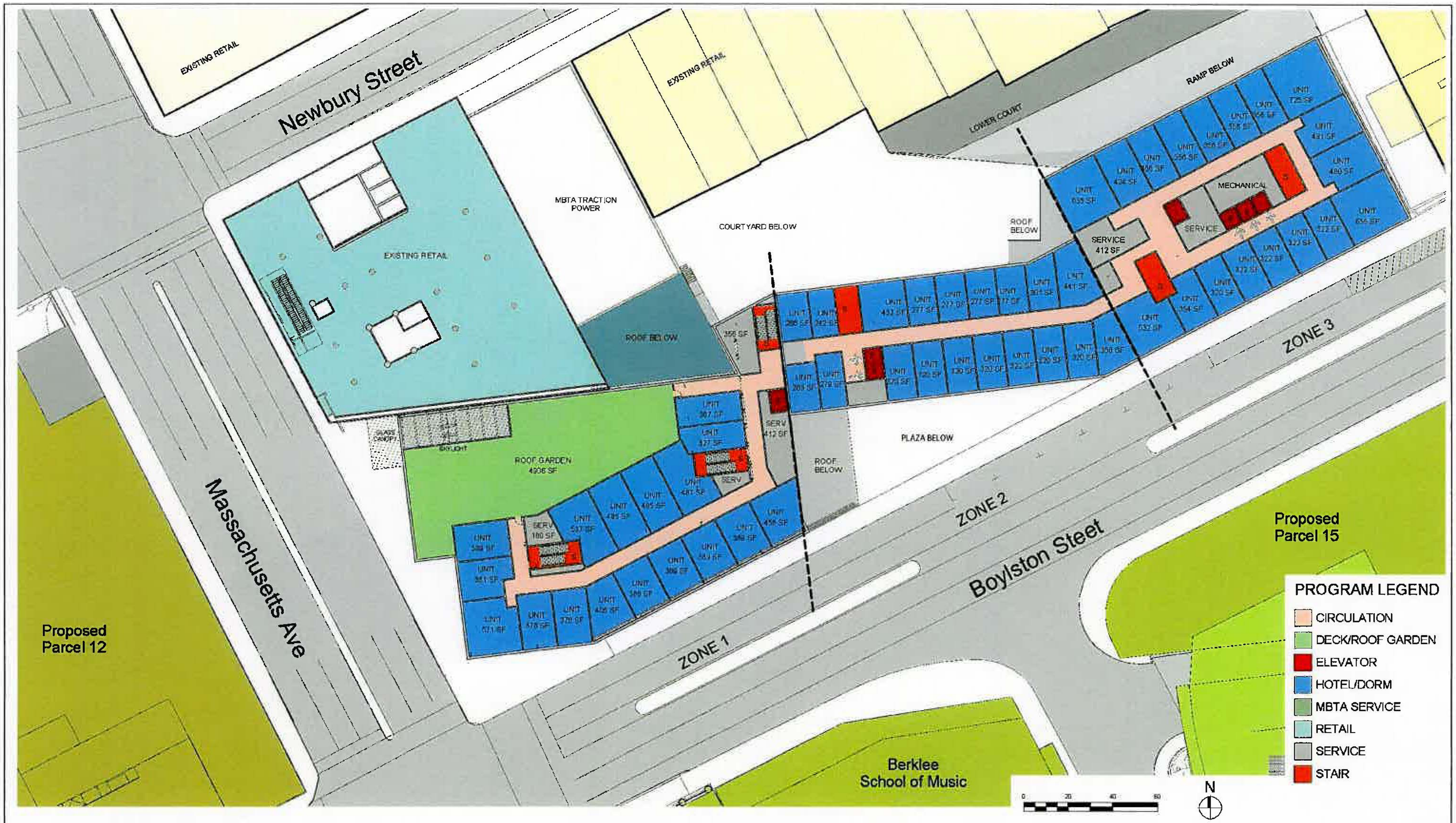
KLEINFELDER
Bright People. Right Solutions.
Architect

Moving Massachusetts Forward
massDOT

T

PARCEL 13 AIR RIGHTS

Figure 16:
Option B
Level 2



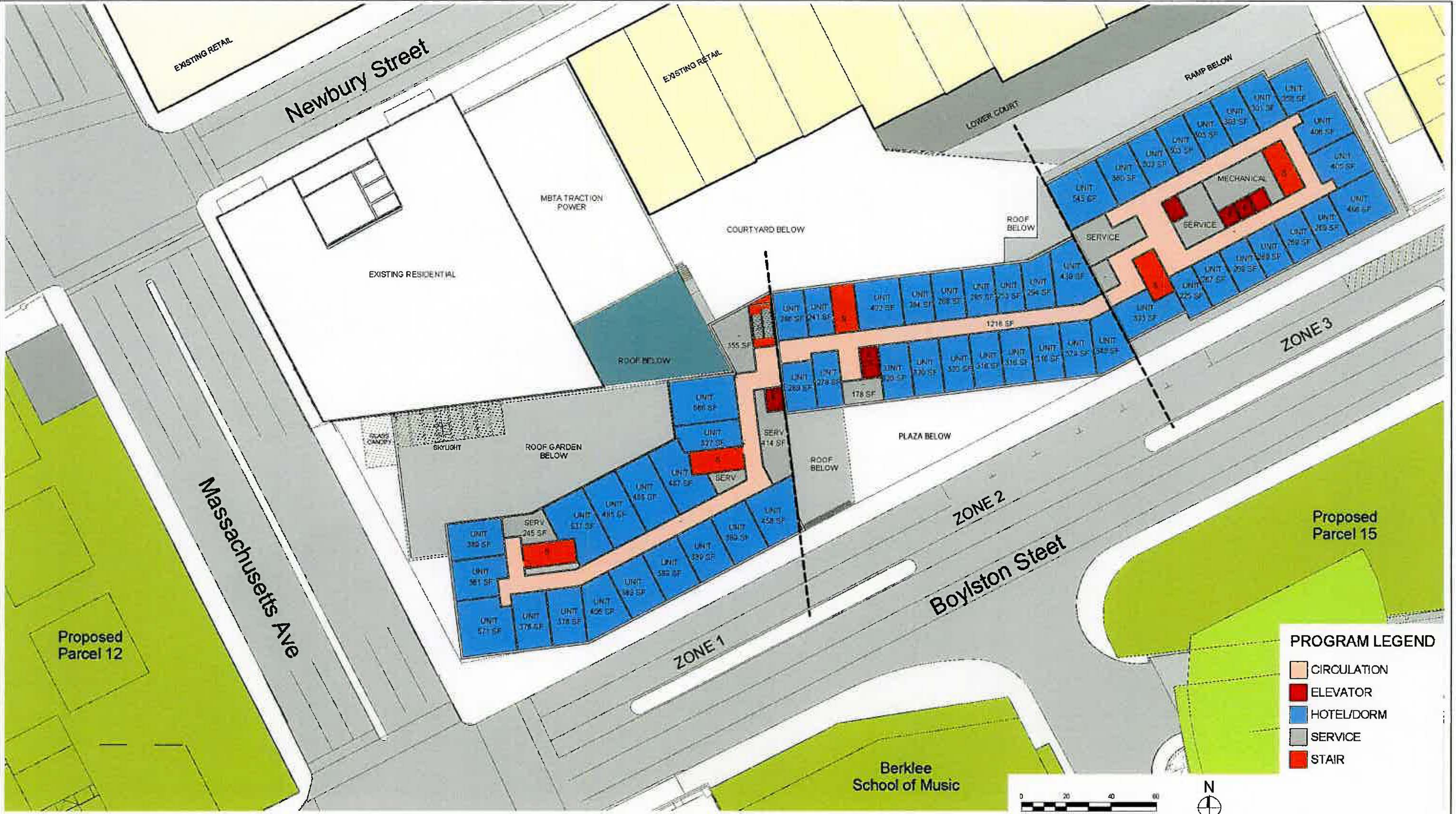
PARSONS BRINCKERHOFF
Structural Engineer, Project Manager

KLEINFELDER
Bright People. Right Solutions.
Architect

Moving Massachusetts Forward
massDOT

PARCEL 13 AIR RIGHTS

Figure 17:
Option B
Level 3



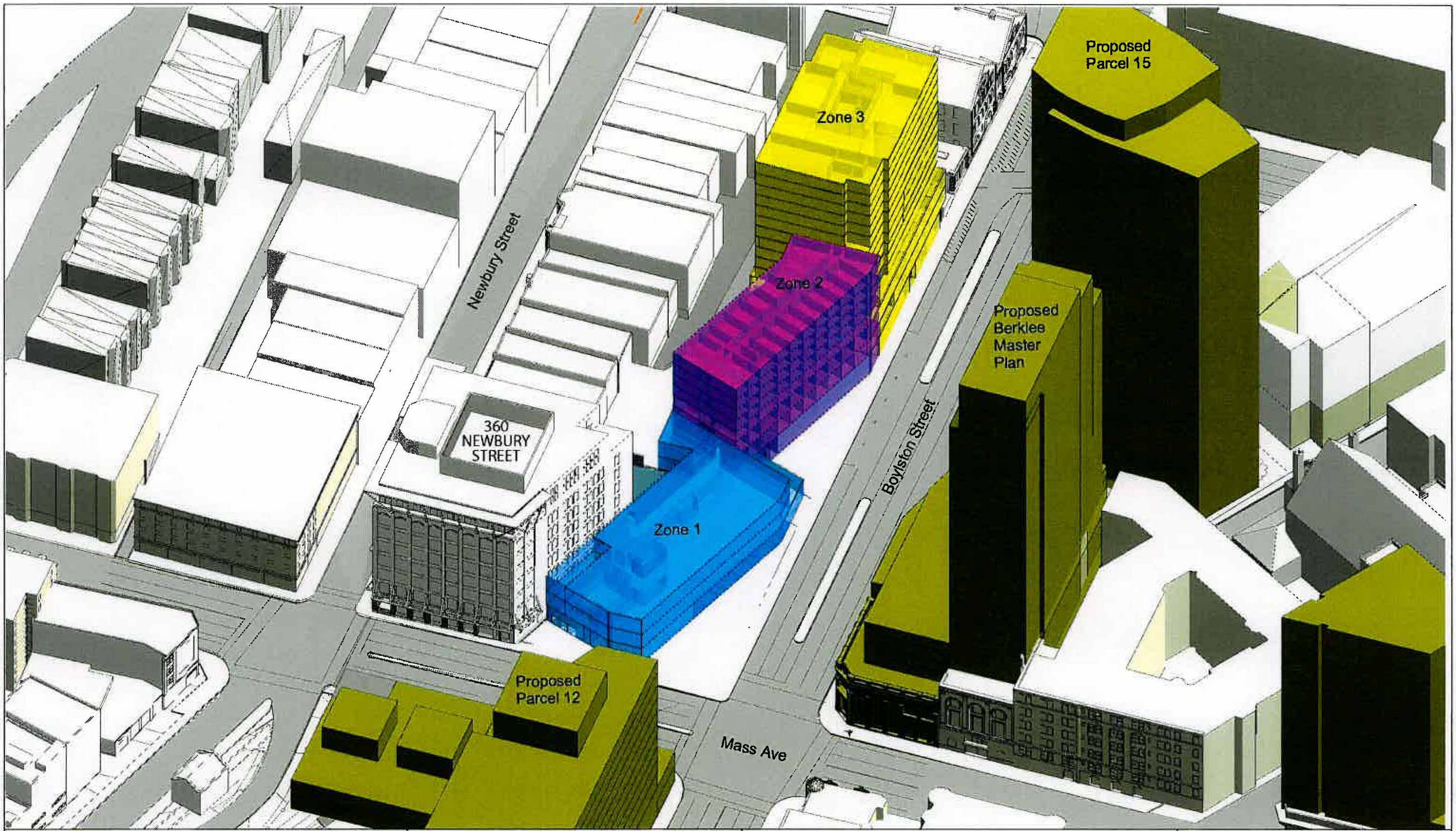
PARSONS BRINCKERHOFF
Structural Engineer, Project Manager

KLEINFELDER
Bright People. Right Solutions
Architect

Moving Massachusetts Forward
massDOT

PARCEL 13 AIR RIGHTS

Figure 18:
Option B
Levels 4 + 5



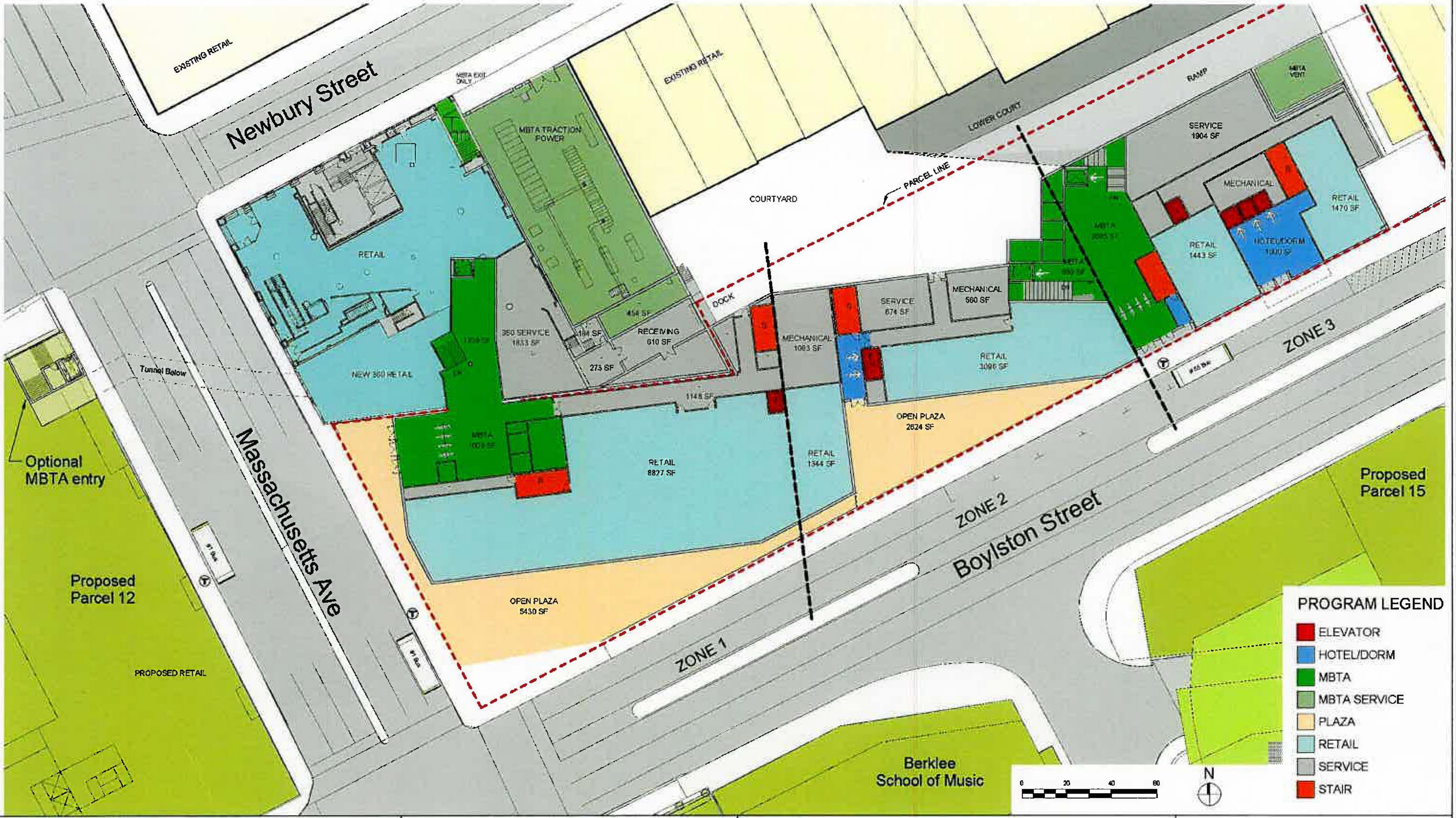
PARSONS BRINCKERHOFF
Structural Engineer, Project Manager

KLEINFELDER
Bright People. Right Solutions.
Architect

Moving Massachusetts Forward
massDOT

PARCEL 13 AIR RIGHTS

Figure 19:
Option C
Aerial View



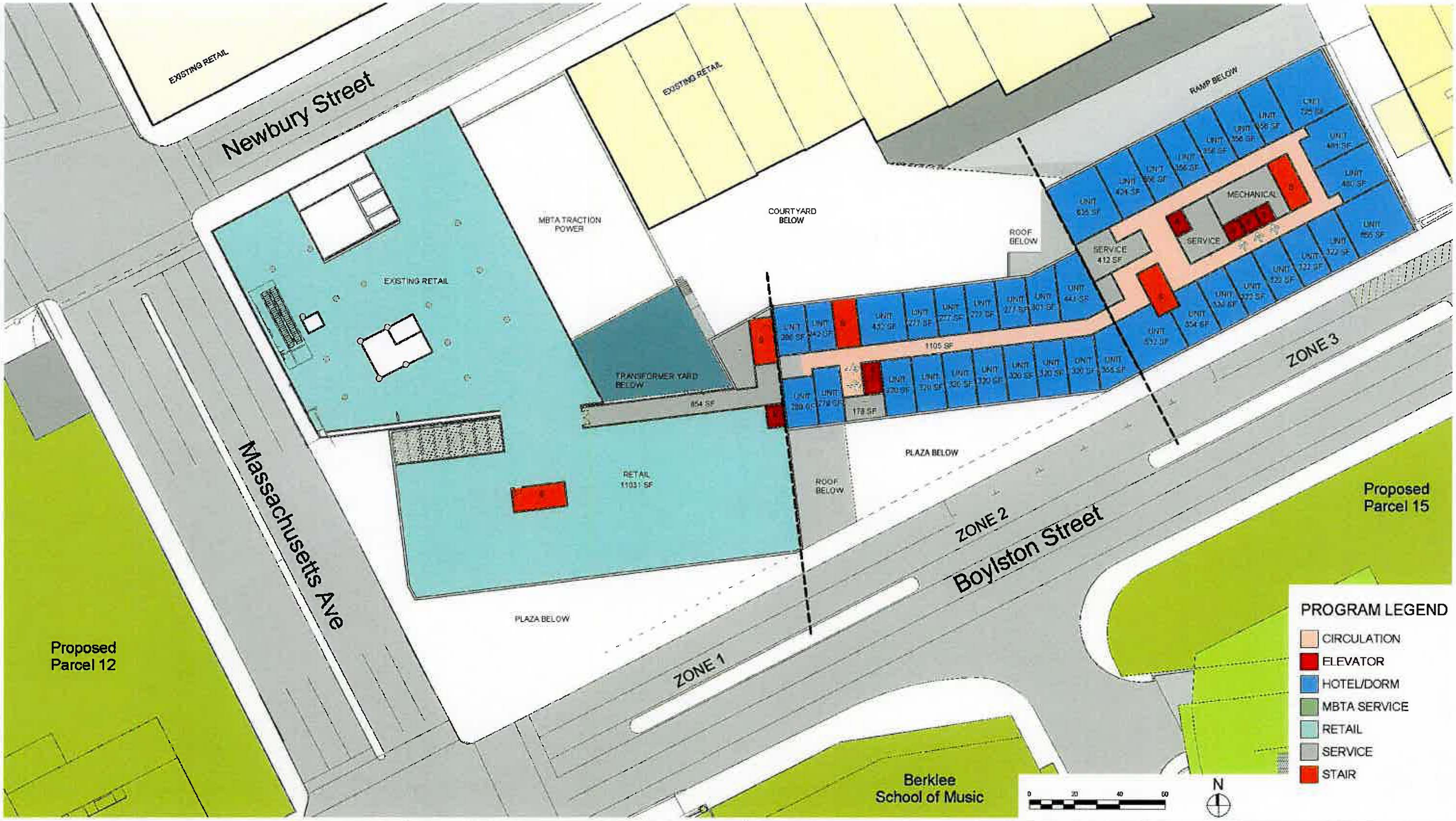
PARSONS BRINCKERHOFF
Structural Engineer, Project Manager

KLEINFELDER
Bright People. Right Solutions.
Architect

Moving Massachusetts Forward
massDOT

PARCEL 13 AIR RIGHTS

Figure 20:
Option C
Level 1



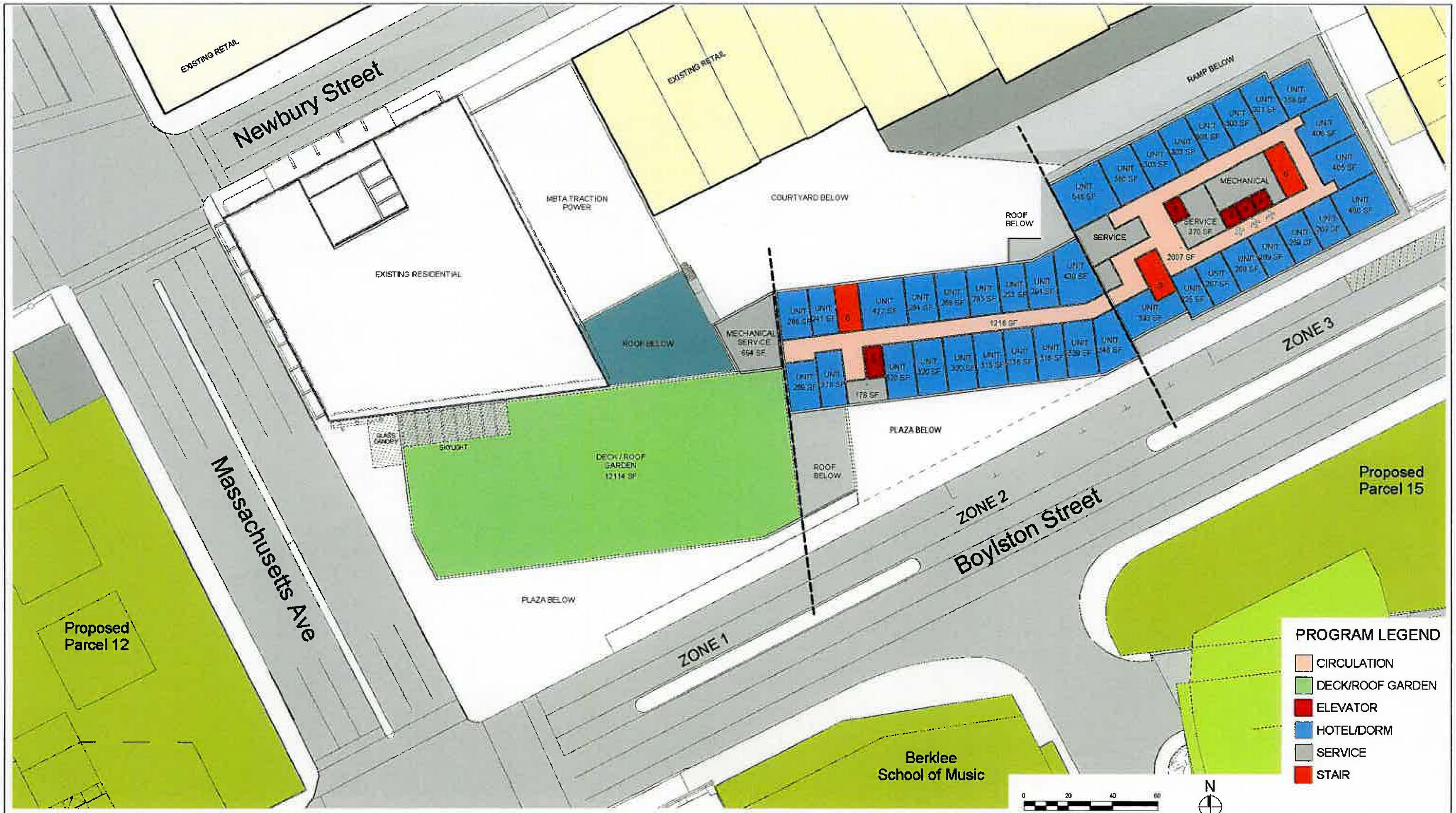
PARSONS BRINCKERHOFF
Structural Engineer, Project Manager

KLEINFELDER
Bright People. Right Solutions
Architect

Moving Massachusetts Forward
massDOT

PARCEL 13 AIR RIGHTS

Figure 21:
Option C
Levels 2 + 3



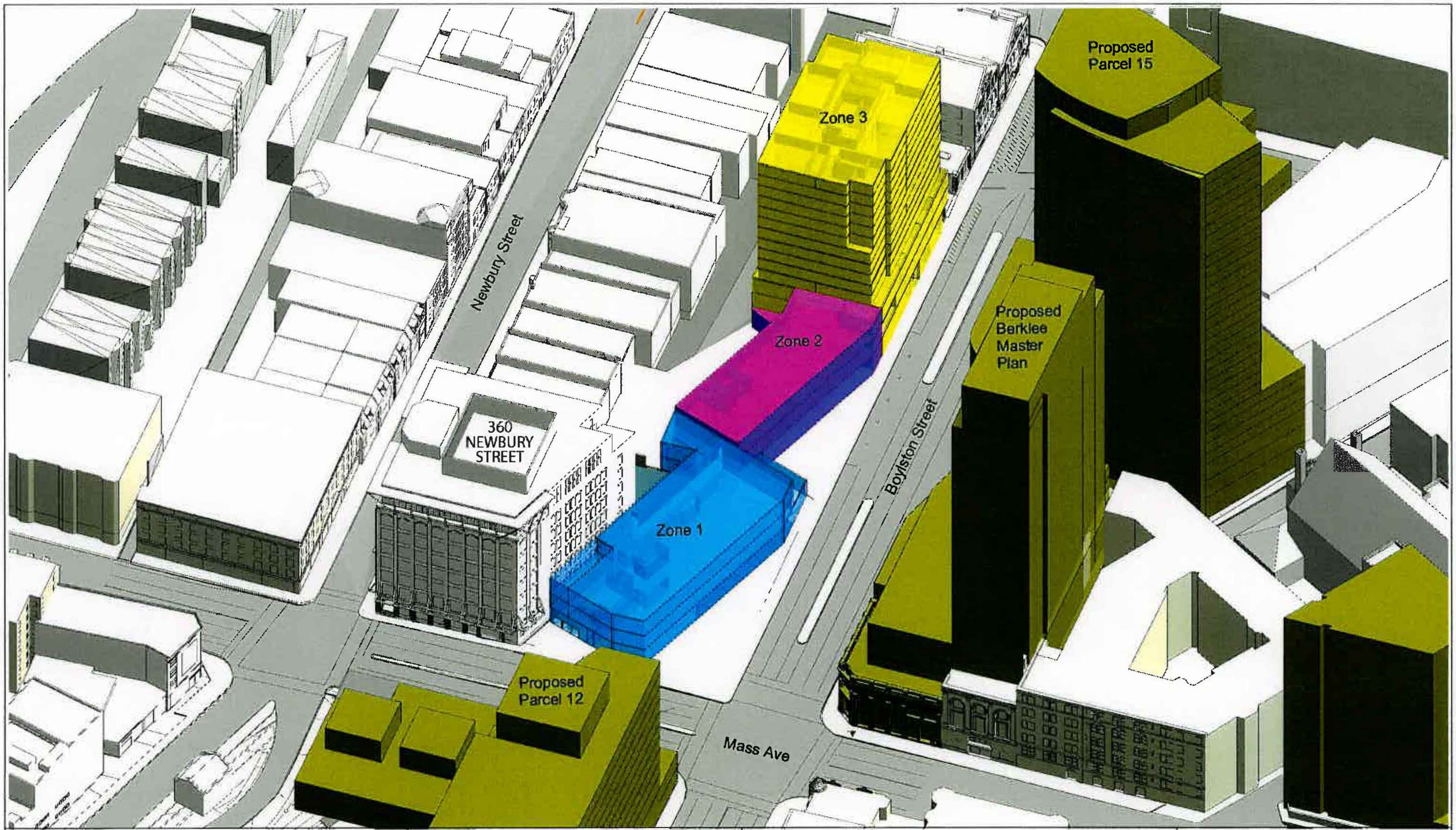
PARSONS BRINCKERHOFF
Structural Engineer, Project Manager

KLEINFELDER
Bright People. Right Solutions.
Architect

Moving Massachusetts Forward
massDOT

PARCEL 13 AIR RIGHTS

Figure 22:
Option C
Level 4 + Roof



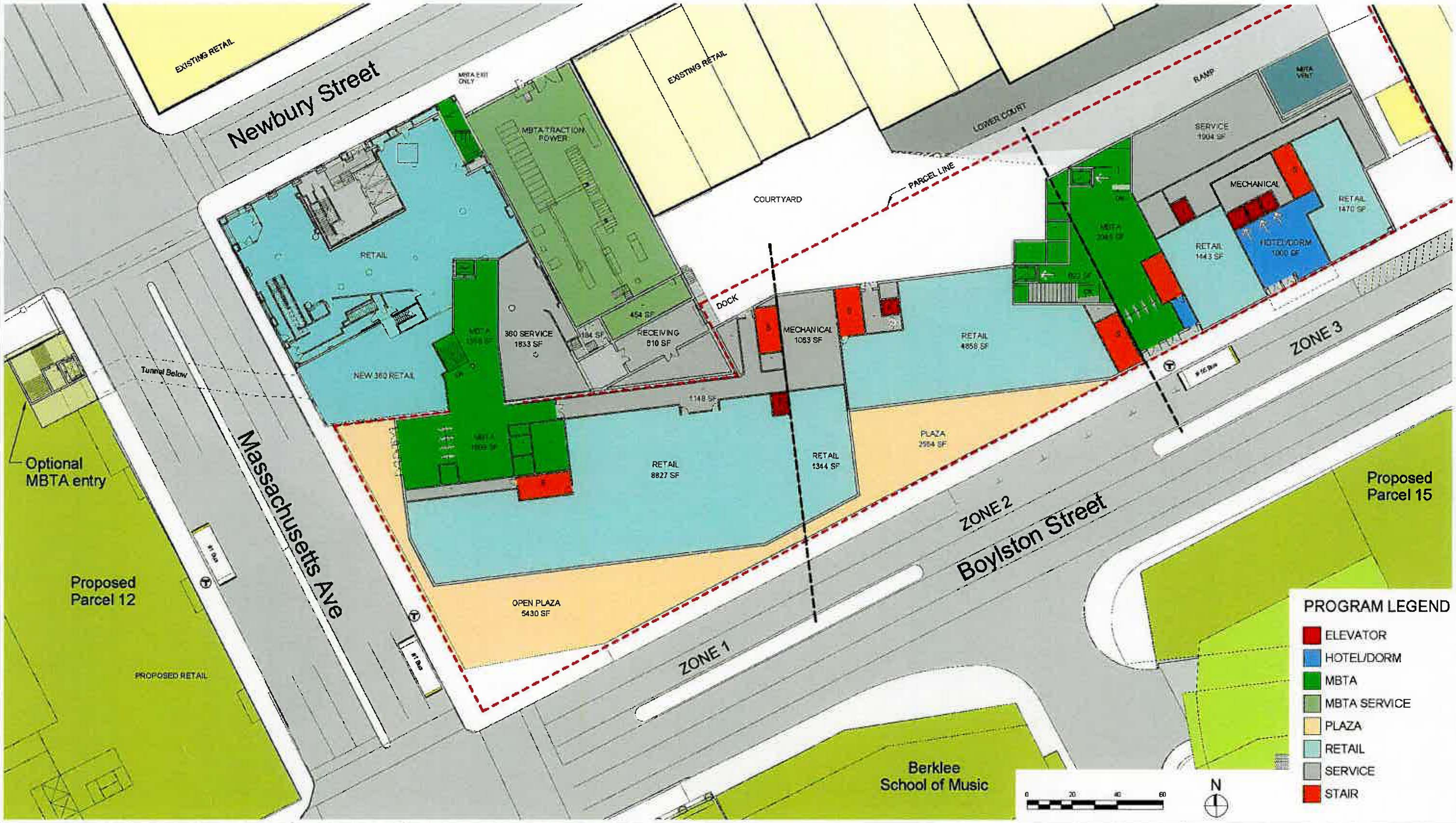
PARSONS BRINCKERHOFF
Structural Engineer, Project Manager

KLEINFELDER
Bright People. Right Solutions.
Architect

Moving Massachusetts Forward
massDOT

PARCEL 13 AIR RIGHTS

Figure 23:
Option D
Aerial View



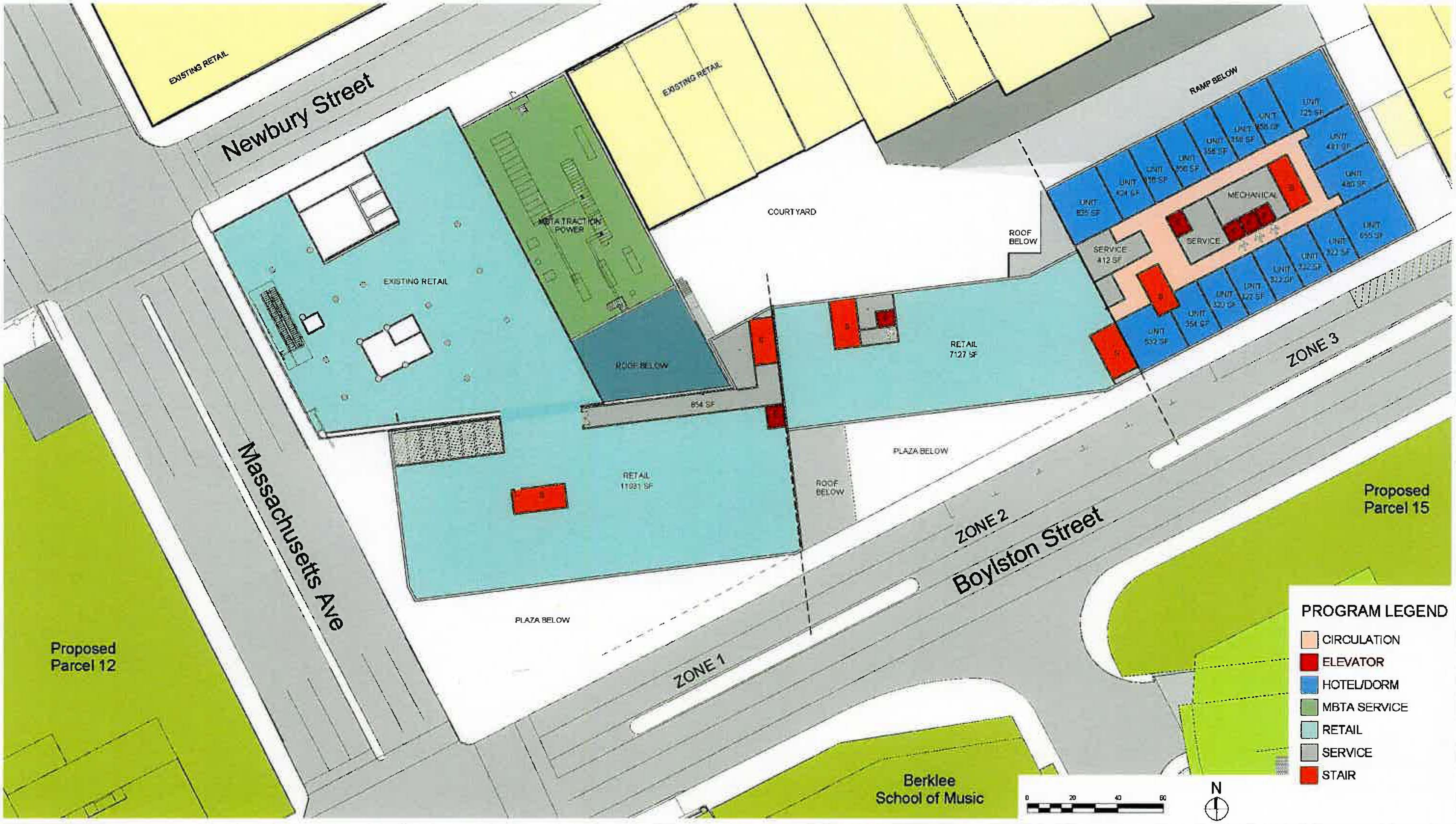
PARSONS BRINCKERHOFF
Structural Engineer, Project Manager

KLEINFELDER
Bright People. Right Solutions
Architect

Moving Massachusetts Forward
massDOT

PARCEL 13 AIR RIGHTS

Figure 24:
Option D
Level 1



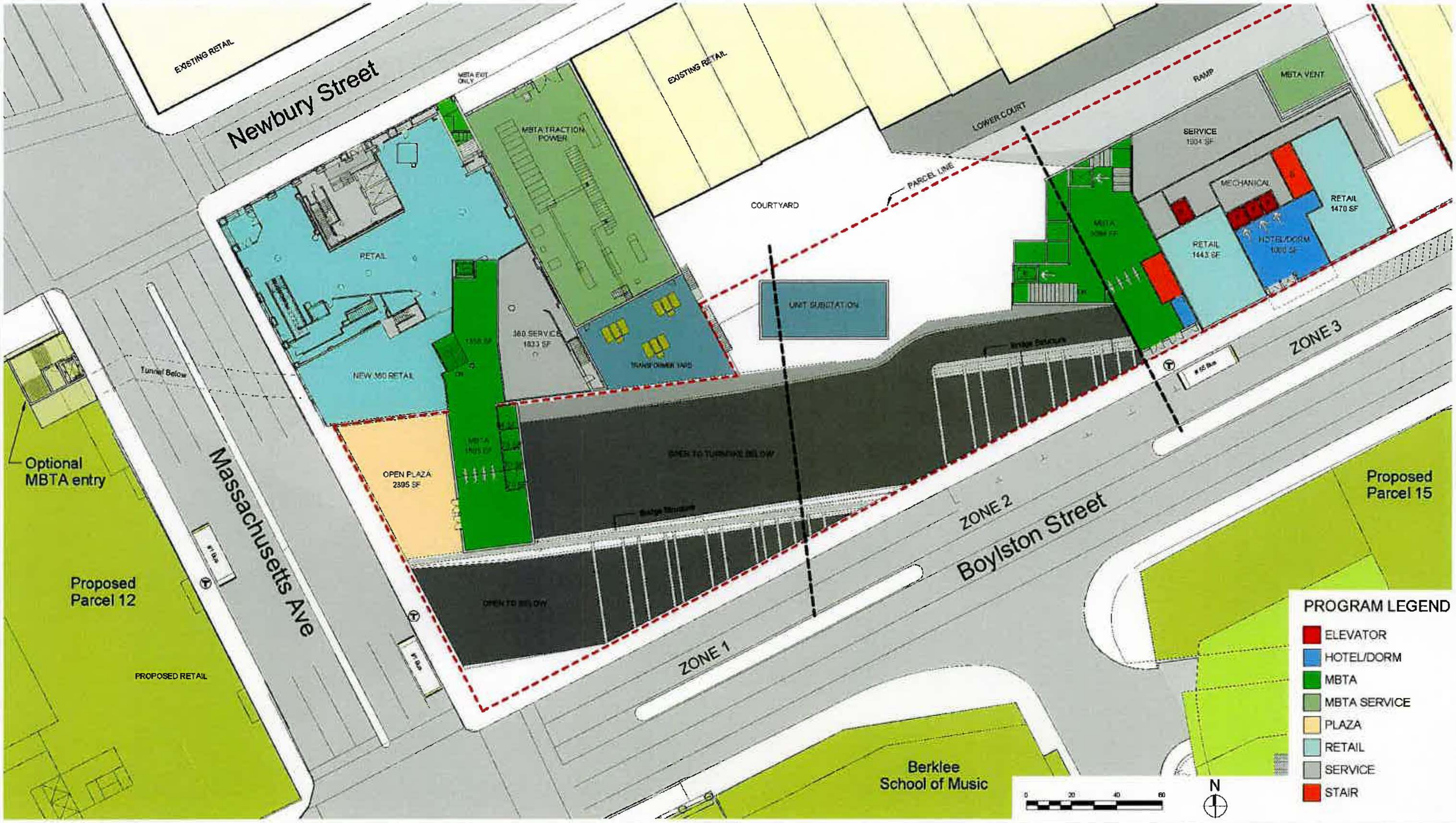
PARSONS BRINCKERHOFF
Structural Engineer, Project Manager

KLEINFELDER
Bright People. Right Solutions.
Architect

Moving Massachusetts Forward
massDOT

PARCEL 13 AIR RIGHTS

Figure 25:
Option D
Level 2+3



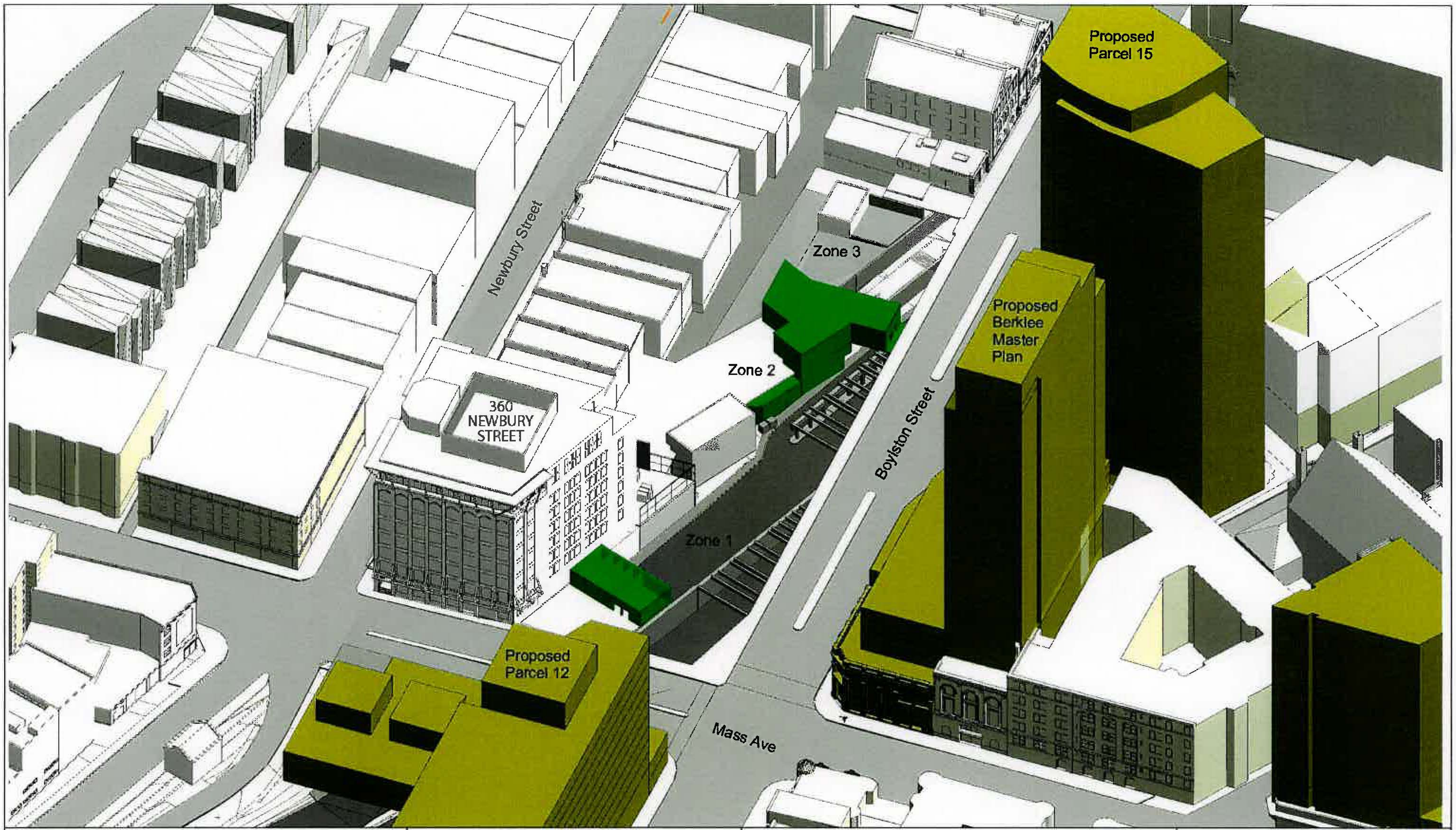
PARSONS BRINCKERHOFF
Structural Engineer, Project Manager

KLEINFELDER
Bright People. Right Solutions.
Architect

Moving Massachusetts Forward
massDOT

PARCEL 13 AIR RIGHTS

Figure 26:
Option E
Level 1



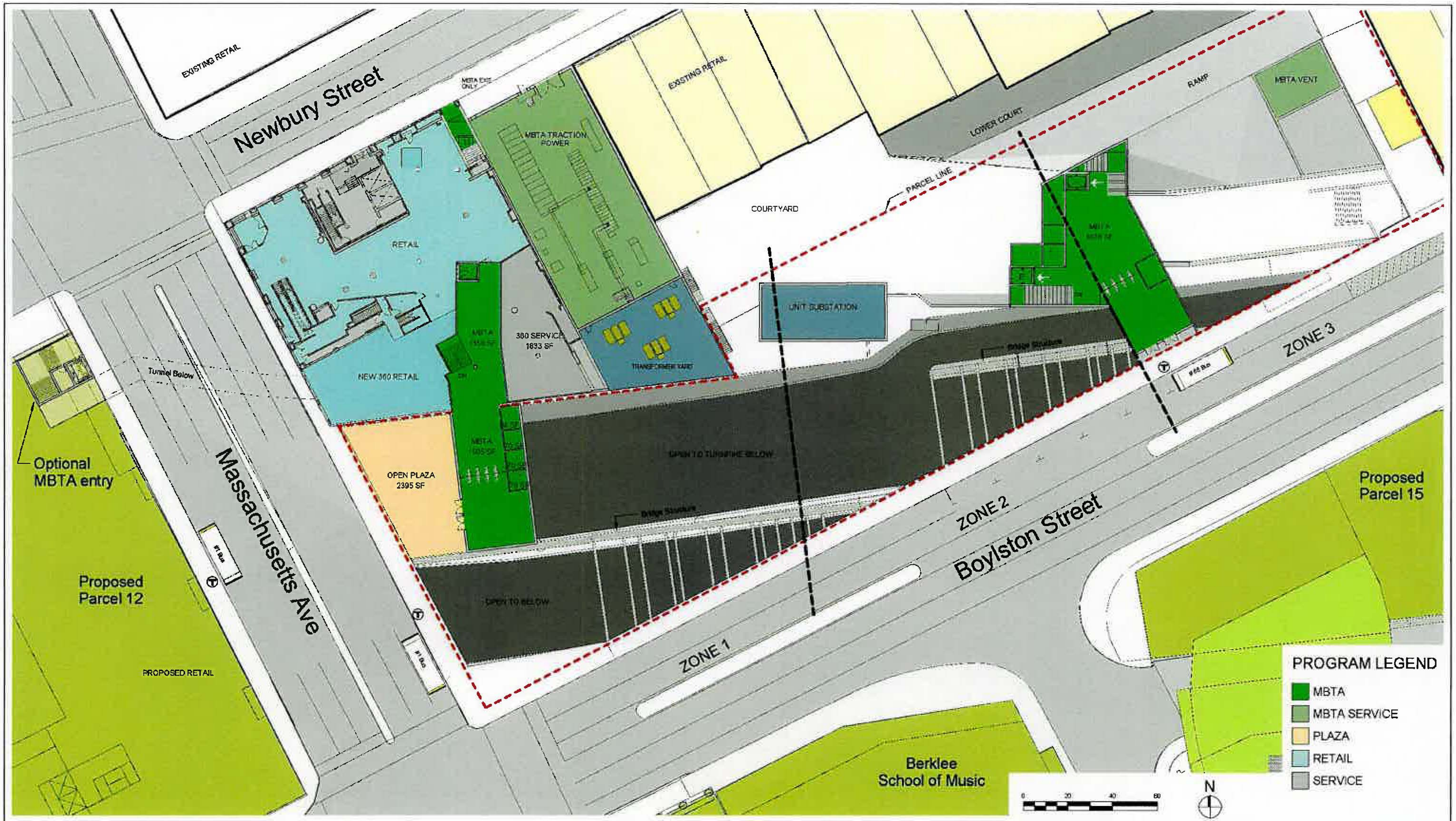
PARSONS BRINCKERHOFF
Structural Engineer, Project Manager

KLEINFELDER
Bright People. Right Solutions.
Architect

Moving Massachusetts Forward
massDOT

PARCEL 13 AIR RIGHTS

Figure 27:
Option F
Aerial View



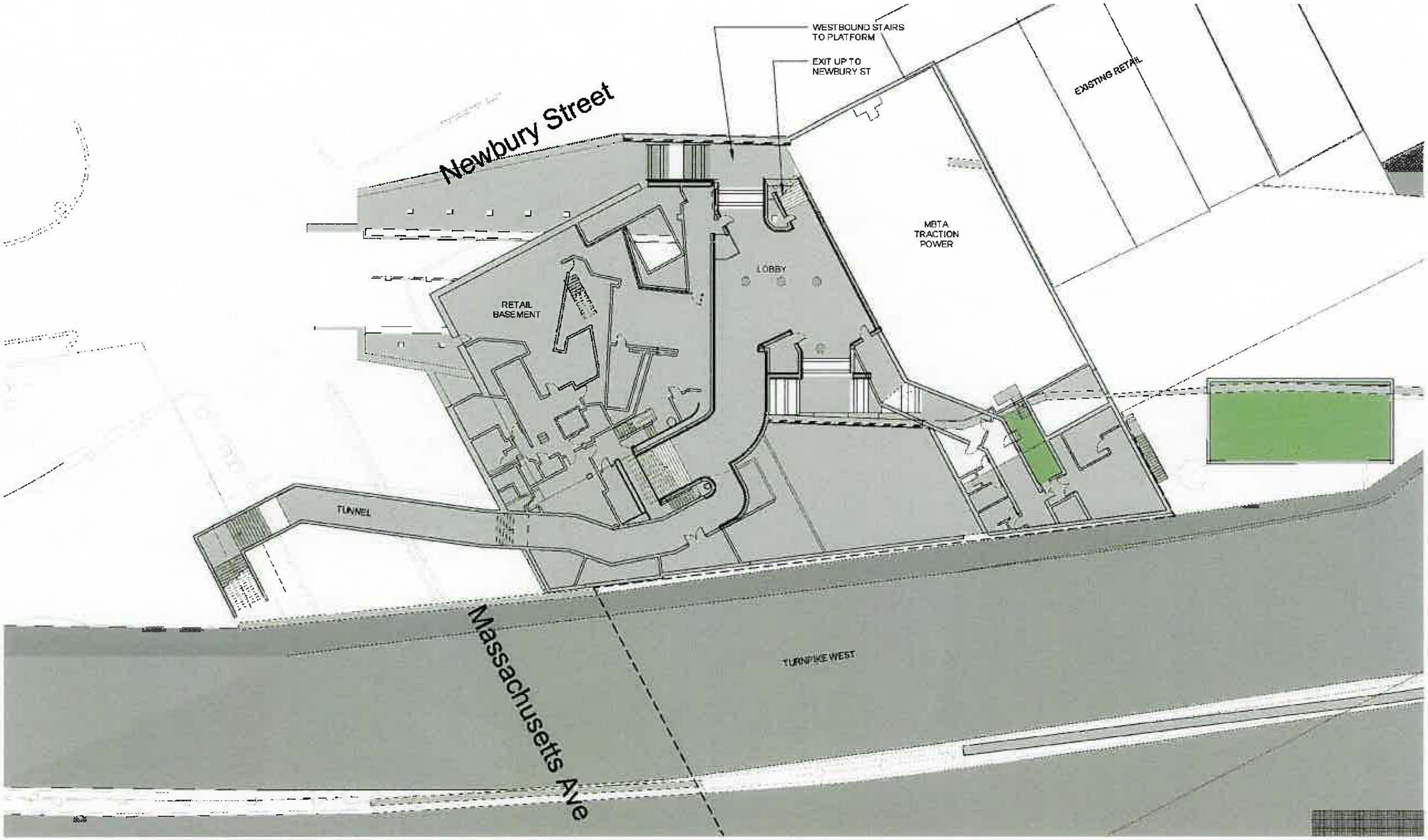
PARSONS BRINCKERHOFF
Structural Engineer, Project Manager

KLEINFELDER
Bright People. Right Solutions.
Architect

Moving Massachusetts Forward
massDOT

PARCEL 13 AIR RIGHTS

Figure 28:
Option F
Level 1



① 360 Newbury LOBBY LOWER LEVEL - existing
SCALE: 1/16" = 1'-0"

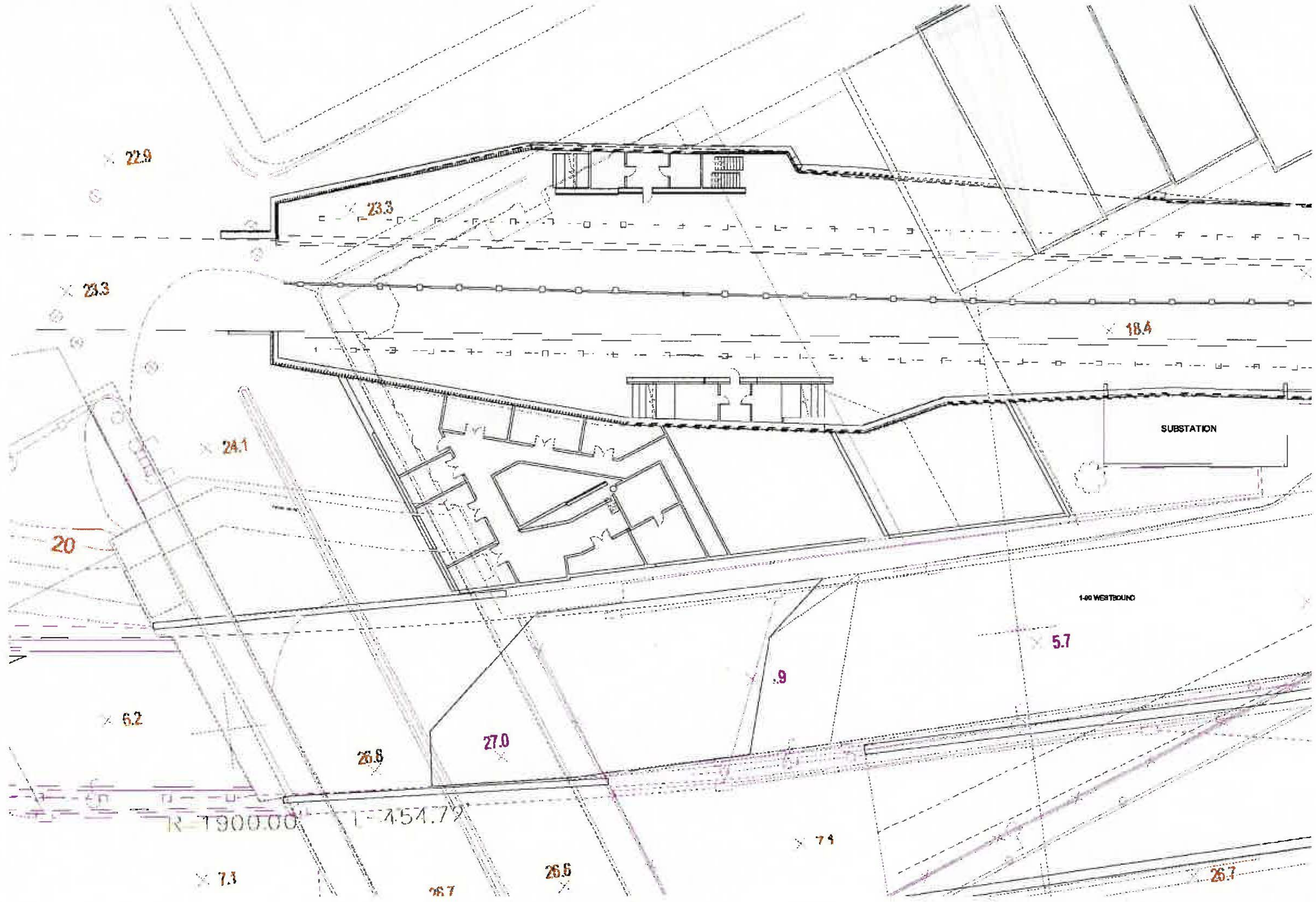
PARSONS BRINCKERHOFF
Structural Engineer, Project Manager

KLEINFELDER
Bright People. Right Solutions.
Architect

Moving Massachusetts Forward
massDOT

PARCEL 13 AIR RIGHTS

Figure 29: 360 Newbury St
Existing Conditions
Lower Level



PARSONS BRINCKERHOFF
Structural Engineer, Project Manager

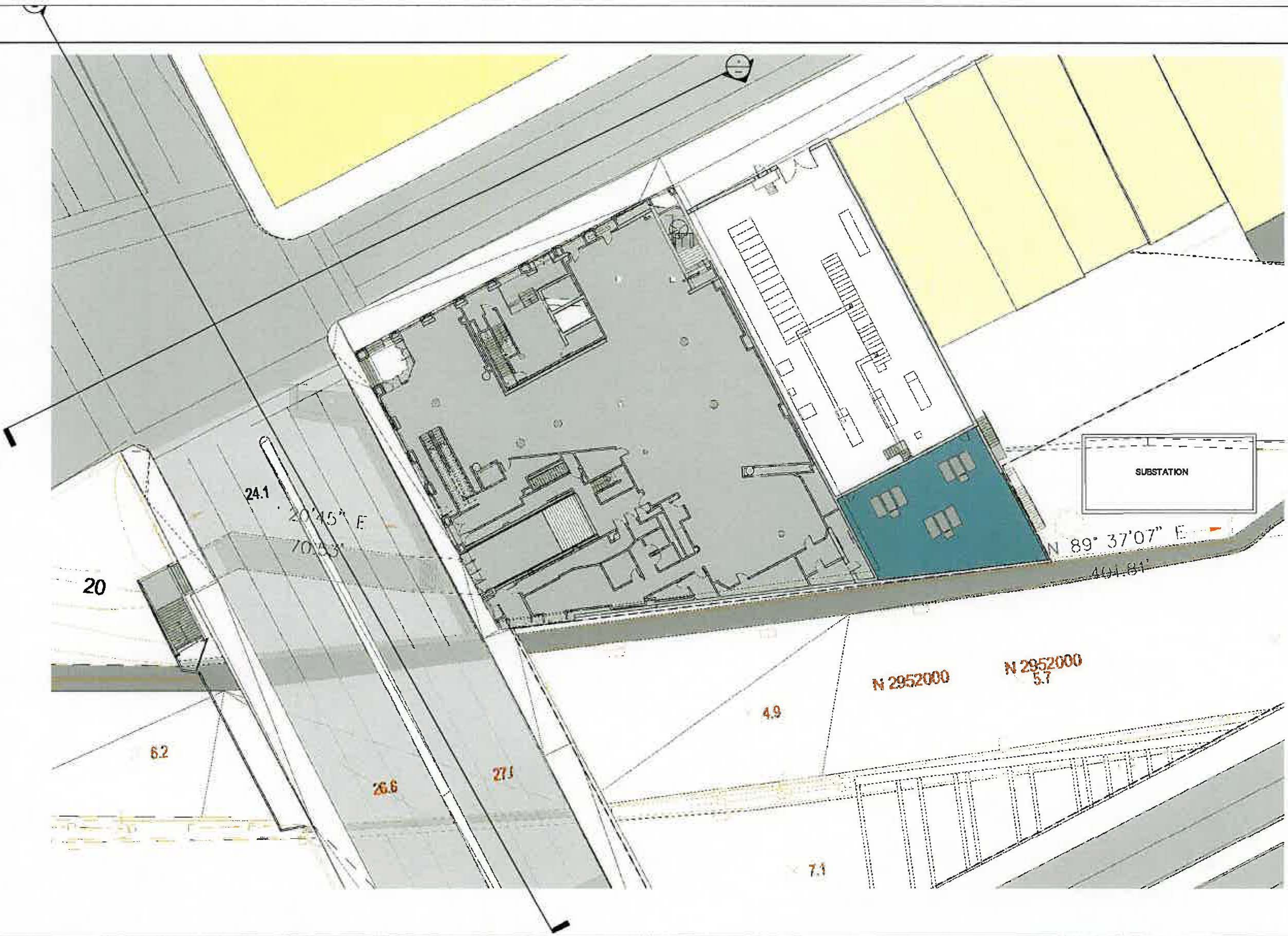
KLEINFELDER
Bright People. Right Solutions.
Architect

Moving Massachusetts Forward
massDOT

T

PARCEL 13 AIR RIGHTS

Figure 30: 360 Newbury St
Existing Conditions
Platform Level

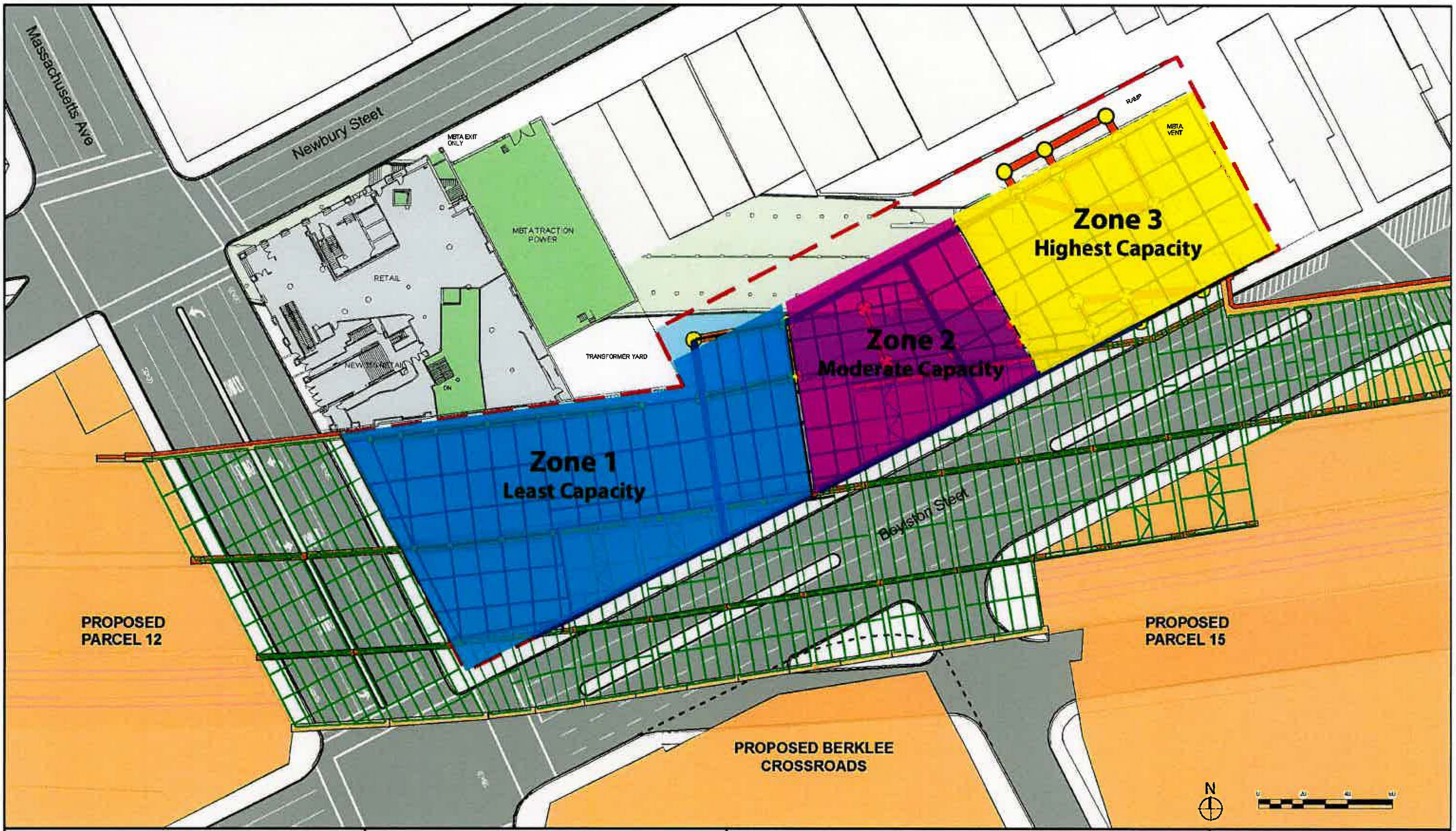


PARSONS BRINCKERHOFF
Structural Engineer, Project Manager
KLEINFELDER
Bright People. Right Solutions.
Architect

massDOT

PARCEL 13 AIR RIGHTS

Figure 31: 360 Newbury St
Existing Conditions
Street Level



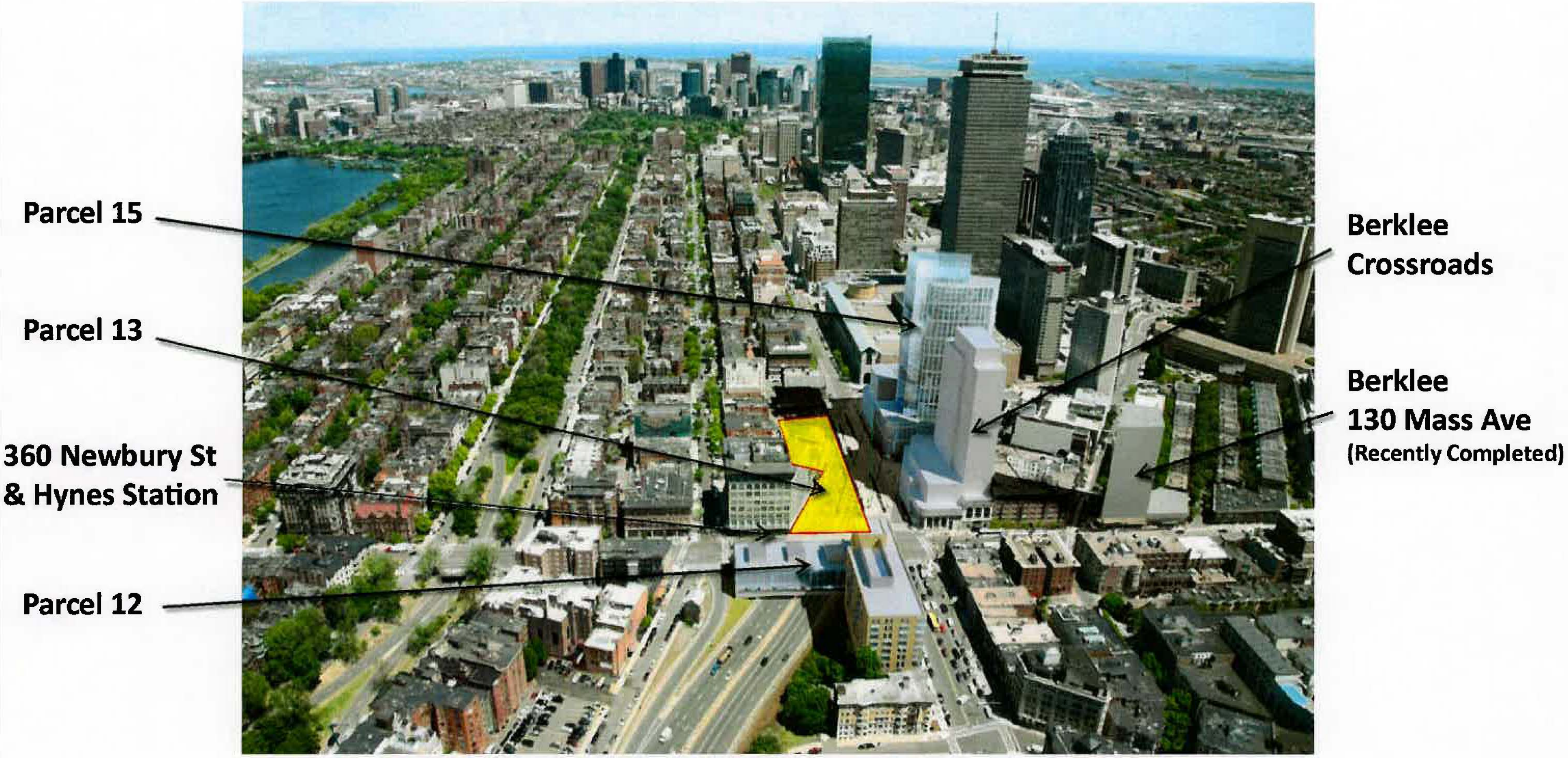
PARSONS BRINCKERHOFF

KLEINFELDER
Bright People. Right Solutions.

Moving Massachusetts Forward
massDOT

PARCEL 13 AIR RIGHTS

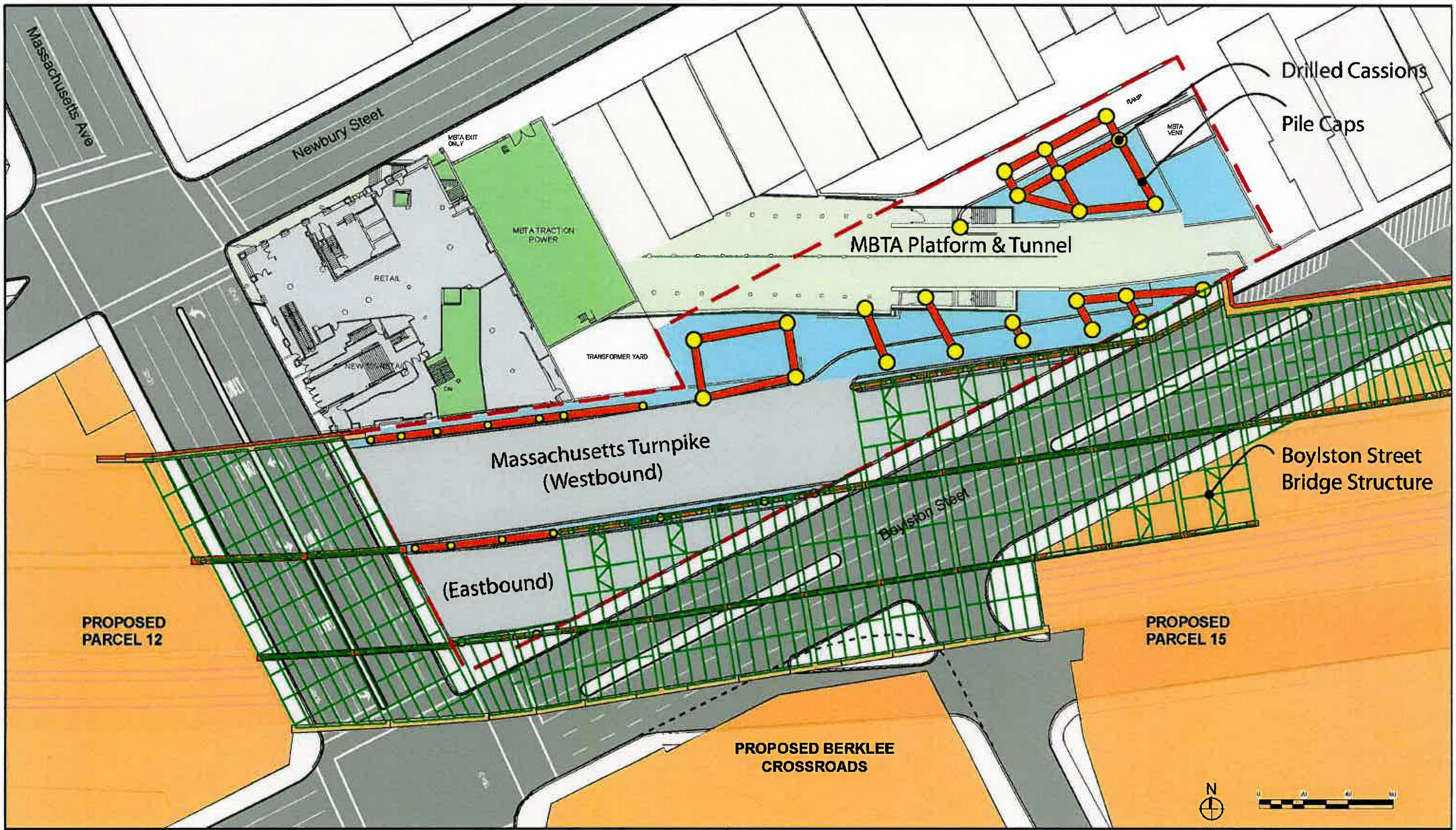
Figure 32:
Building Zones


Parcel 15
Parcel 13
360 Newbury St & Hynes Station
Parcel 12
Berklee Crossroads
Berklee 130 Mass Ave (Recently Completed)

From ADG SCOTIA II LLC (an affiliate of Weiner Ventures LLC and Samuels & Associates Development LLC) March 16, 2012

PARCEL 13 AIR RIGHTS

Figure 33:
Parcel 12 & 15 Massing



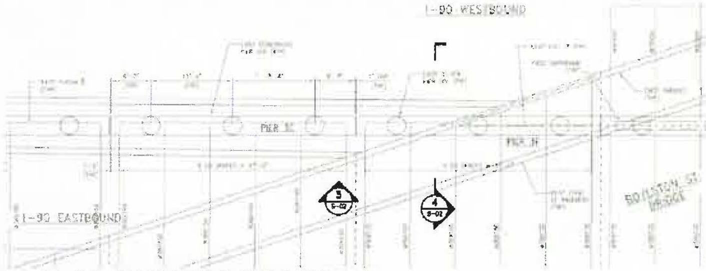
PARSONS BRINCKERHOFF

KLEINFELDER
Bright People. Right Solutions.

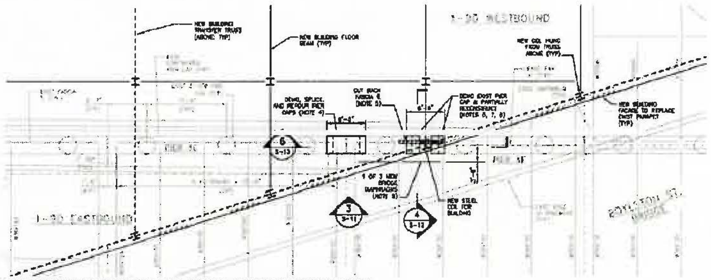
massDOT

PARCEL 13 AIR RIGHTS

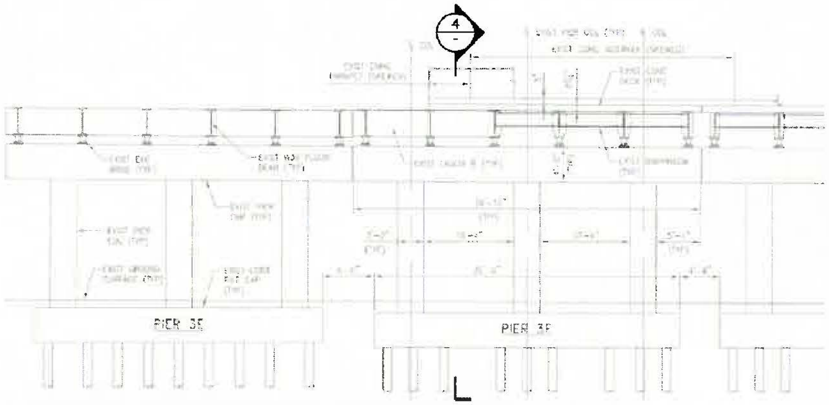
Figure 34:
Cassion Locations, Pile Caps & Bridge Structure



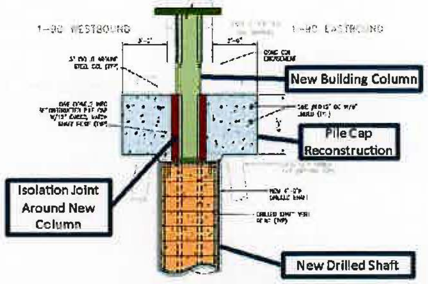
② BOYLSTON ST BRIDGE PIERS 3E AND 3F - EXISTING FRAMING PLAN



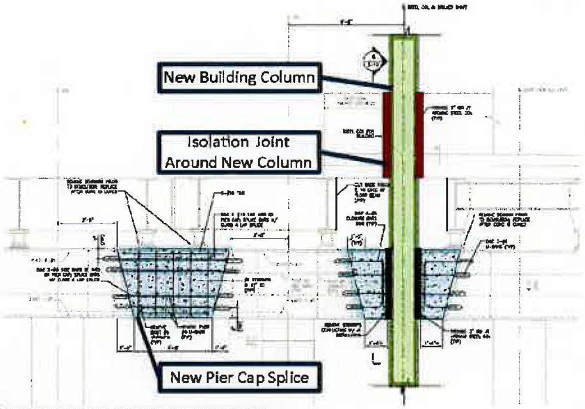
② BOYLSTON ST BRIDGE PIERS 3E AND 3F - MODIFIED FRAMING PLAN



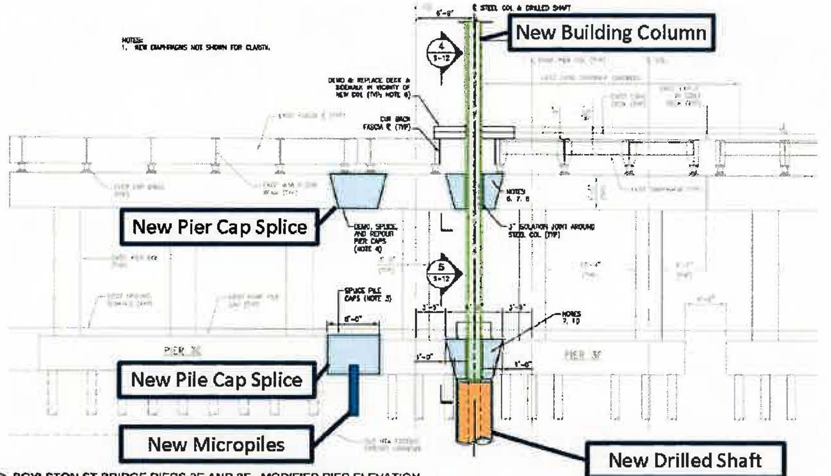
③ BOYLSTON ST BRIDGE PIERS 3E AND 3F - EXISTING PIER ELEVATION



⑤ BOYLSTON ST BRIDGE PIERS 3E AND 3F - MODIFIED FOUNDATION SECTION



⑥ BOYLSTON ST BRIDGE PIERS 3E AND 3F - MODIFIED PIER SECTION



③ BOYLSTON ST BRIDGE PIERS 3E AND 3F - MODIFIED PIER ELEVATION

PARSONS BRINCKERHOFF
KLEINFELDER
Bright People. Right Solutions.

Moving Massachusetts Forward
massDOT

PARCEL 13 AIR RIGHTS

Figure 35:
Foundation & Column Cap Details